DEPARTMENT OF
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State of Washington

Beyond Waste Status Report

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Beyond Waste Status Report

Washington State Department of Ecology
Olympia, Washington

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Introduction

Beyond Waste 30-Year Vision:

We can transition to a society where waste is viewed as inefficient, and where most wastes and toxic substances have been eliminated. This will contribute to economic, social and environmental vitality.

The purpose of this status report is to do a mid-course check-in and prepare for the five-year update of the state plan. This report answers the question: nine years into implementing the plan, how are we doing?

Below is a short summary table, below; followed by a detailed accounting of what on what we intended to do, what we accomplished, and what we did not. If you prefer less detail, we also have a ten-page list of all milestones with a summary sentence of progress.

During the 2011-2013 biennium, work on the Beyond Waste Plan was limited by budget reductions and provisos. The status for this draft summary report was determined as of the end of 2013.

Status Report Summary Table for 2009 Beyond Waste Plan

Plan Section (# recommendations)	Number of Milestones	Completed	Significant Progress	Some Progress	Little Progress	No Progress
Industries Initiative **(14)**	17	0	4	5	6	2
Small Volume Hazardous Materials & Waste Initiative **(12)**	15	0	4	3	7	1
Organics Initiative **(6)**	13	0	1	7	4	1
Green Building Initiative **(7)**	11	0	3	5	3	0
Measuring Progress Initiative **(5)**	7	2	3	1	1	0
Hazardous Waste Issues **(11)**	11	2	3	6	0	0
Solid Waste Issues **(15)**	19	1	3	6	6	3
Total (70)	**93**	**5**	**21**	**33**	**27**	**7**
Percent		***5%***	***23%***	***36%***	***29%***	***8%***

Moving Beyond Waste with Industries

Recommendation IND 1: *Modify the Pollution Prevention (P2) Planning program to dovetail with the Beyond Waste vision. Some specific examples are listed and include efficiency, data tracking, early intervention, plan implementation, and hazardous substance use.*

Summary of Progress: Industries	
No Progress	2
Little Progress	6
Some Progress	3
Significant Progress	6
Completed	0
Total Milestones	**17**
Total Recommendations	**14**

Milestone IND A: Most P2 plans comprehensively address hazardous substance use.

Implementation Strategy: Implement sector campaigns and the Toxic Reduction Advisory Committee (TRAC) report. Eliminate or minimize the most toxic chemicals. The focus of first sector campaign will be on toxic metals, especially lead, with the P2 planners.

What We Did: The process of P2 planning is more efficient with the development of computer software that allows facilities to enter their plans online, with a series of prompts to ensure key information is included. This has freed up Ecology staff time on plan review. We are also in the process of including additional information entered from the P2 plans into the Beyond Waste (BW) Progress Report.

We have also reestablished the early intervention program that was discontinued due to budget cuts. Through this program staff make significant contact with facilities before their first P2 plan is due and encourage them to begin pollution prevention as soon as possible. The scope of plans has broadened, especially in the areas of energy conservation (due to a grant) and hazardous substance reduction.

We also conducted a three-year sector campaign on reduction of toxic metals that is wrapping up this year. This campaign encouraged facilities to implement ways to reduce certain toxic metals.

What We Didn't Do: Other than focus on addressing hazardous substances in their plans, we were unable to implement many of the recommendations of the Toxics Reduction Advisory Committee (TRAC) report due to lack of legislation and funding. And, since this was the first year the software was used, some facilities did not comprehensively address hazardous substance use. We expect more focus in this area in the coming years, especially on alternatives for the most toxic hazardous substances as more information and tools become available in this area. Consequently, the data is just beginning to be used for sector campaigns and policy decisions. An example is using the data for the Safer Chemistry Challenge, a new outreach campaign to encourage businesses to use less toxic chemicals. Eliminating or minimizing the most toxic chemicals is a long-term focus and will take years to implement.

Summary of Progress: Significant progress. Initiated online P2 plan submittals and broadened plans to include hazardous substance reduction and energy conservation. Conducted a sector campaign on reduction of toxic metals.

Recommendation IND 2: *Expand information on Ecology's website.*

Milestone IND B: The Hazardous Waste and Toxics Reduction (HWTR) program website includes more information about best management practices, including alternatives for key wastes and substances.

Implementation Strategy: Highest priorities for this ongoing work will be to tie in web updates with sector campaigns, add compliance information that substitutes for dangerous waste workshops, and include safer alternatives to toxics.

What We Did: After the development of the 2004 plan, we received contract monies from the state Legislature to update HWTR's website. With help of a consultant, we developed a plan, improved the site navigation, and added new content, including information specific to some business types. The implementation of the plan was completed in 2011. Since then additional web content has been added on the Toxic Metals Prevention project (HWTR's sector campaign). Additionally, after budget cuts caused the dangerous waste workshops to be eliminated, a series of tutorials (PowerPoint slides with notes) were added to the website.

What We Didn't Do: Based on the success of the one pilot audio slide show, we are still planning to develop a series of videos that will add to the library of online dangerous waste tutorials. Due to budget cuts, a web content writer position was eliminated in 2012 so additions to the web have slowed down considerably. Much more information on safer alternatives to toxics, including information on green chemistry, still needs to be added. Also, there is some old information that needs to be eliminated or updated with more current information.

Summary of Progress: Significant progress. The website now includes more information specific to business type, about the Toxic Metals Prevention sector campaign, and tutorial videos for businesses on dangerous wastes. More material is needed on safer alternatives and green chemistry.

Recommendation IND 3: *Put in place several Beyond Waste incentives (such as performance results, green technology, product stewardship, product certification and labeling, recognition programs, low-interest loans or other financing, eliminate subsidies, changes to hazardous waste fees, phase out highly toxic substances using memoranda of agreement, and assistance in redesigning an organization's product or process.*

Milestone C: Several incentives are in place to help implement Beyond Waste, including a possible low-interest loan program or possible changes to hazardous waste fees.

Implementation Strategy: Using previous research, emphasize incentives that tie into existing projects such as Envirostars sector campaigns, and implementation of TRAC recommendations. Partners will likely include local government and P2 planners, depending on incentives.

What We Did: After the TRAC report was completed, legislation was introduced to change the structure of the hazardous waste fees. It failed to pass and has not been re-introduced due to the downturn of the economy and some business opposition. We have worked with Impact Washington (formerly Washington Manufacturing Services) on a loan program, but once again, the Legislature has been unwilling to put monies aside for this idea, due to the economy. We have worked successfully with some businesses to "lean" their processes and provided technical assistance on getting toxic metals out of certain processes and products.

What We Didn't Do: Due to budget problems, the Governor's Award for Sustainability was eliminated so there is no longer a recognition program for those that significantly reduce hazardous waste and hazardous substance use. And, due to the money and effort involved, the Envirostars program was never expanded statewide, which was recommended by Ecology's consultant. Due to opposition from the waste industry, only one additional product stewardship program, mercury lights, has been adopted. We have not attempted to establish the other incentive programs due to lack of resources.

Summary of Progress: Little progress. Work initiated on incentives was suspended due to the economic downturn.

Recommendation IND 4: *Encourage new businesses to adopt sustainable practices.*

Milestone IND D: Most of the major new businesses moving to Washington incorporate more sustainable practices.

Implementation Strategy: Provide technical assistance to the Department of Commerce (Commerce) and others when requested.

What We Did: We have not been requested from the Governor's Office or Commerce to work on this, but some businesses have pursued more sustainable practices on their own, due to personal interest.

What We Didn't Do: We have not tried to promote this idea with Commerce or business associations.

Summary of Progress: Little progress. While Ecology did not actively work on this, some businesses pursued sustainable practices on their own.

Recommendation IND 5: *Encourage waste handlers (including businesses and other entities that generate waste) to become brokers of materials.*

Milestone IND E: Hazardous waste handlers including businesses and other entities in Washington have taken noticeable steps toward becoming brokers of materials.

Implementation Strategy: Continue to promote the By-Product Synergy Project with staff support, provide technical assistance, and when feasible, grants.

What We Did: Ecology supported the By-Product Synergy Project for a number of years until Ecology management felt the project could be self-sufficient.

What We Didn't Do: Ecology staff has not provided comprehensive technical assistance to encourage hazardous waste handlers to broker more (and additional) materials.

Summary of Progress: Little progress. Ecology supported ongoing work of the By-Product Synergy Project until the group was self sufficient in brokering materials.

Recommendation IND 6: *Support the Environmental Protection Agency's "Beyond Waste-type" efforts. (Beyond RCRA[1] plan, Resource Conservation, Performance Track, Waste Minimization Partnership Program, and Innovation in permitting and compliance assistance, TSCA[2] reform).*

Milestone IND F: The Environmental Protection Agency (EPA) and Ecology work together to implement Beyond Waste.

Implementation Strategy: Encourage EPA to focus on support for Beyond Waste-type activities with its grants, programs, and strategy development.

What We Did: We have worked closely with EPA on a variety of waste minimization projects. Ecology's former Director took a leadership role with TSCA reform and through our Reducing Toxic Threats efforts Ecology will continue to push for TSCA reform. Ecology's Performance Partnership Agreement (PPA) with EPA has language supporting Beyond Waste. Many of the P2 grants we have received focused on funding recommendations from the state plan. Ecology is promoting EPA's Design for the Environment program. A few Ecology staff are actively engaged with EPA on the West Coast Climate and Materials Management Forum. Overall, in the last five to ten years, there is a closer working relationship with EPA on waste minimization efforts.

What We Didn't Do: We still need to explore ways to make implementation of RCRA work to more fully support specific reduction and recycling efforts such as product stewardship programs for RCRA wastes from medium- and large-quantity generators.

Summary of Progress: Some progress. Ecology engaged with EPA on Beyond Waste projects by supporting TSCA reform, promoting Design for Environment (DfE), implementing P2 grants, and participating in the West Coast Climate and Materials Management Forum. More work is needed on product stewardship programs for RCRA wastes.

[1] Resource Conservation and Recovery Act
[2] Toxic Substances Control Act

Recommendation IND 7: *Promote sustainability in product development.*

Milestone IND G: A strategy has been developed and agreed to for moving forward and at least one project is underway to promote sustainable product design.

Implementation Strategy: This will remain a low priority until more momentum develops. One idea under discussion is product specification development. A past effort, using the lean manufacturing project to redesign existing projects, did not succeed. Despite marketing efforts, no one wanted to participate.

What We Did: Very little.

What We Didn't Do: We did not develop a strategy of how to do this and what our focus would be if we implemented it. Such a strategy could decide to focus on one specific product(s). An example could be children's products and working with manufacturers to get toxics out and make them longer lasting with less waste in the manufacturing process. Another possibility would be to focus on paint and develop a cleaner stock for reuse and recycling.

Summary of Progress: No progress. There's been no progress on developing a strategy, which remains a low priority at this time.

Recommendation IND 8: *Eliminate or minimize groups of the most toxic chemicals as part of Ecology's Reducing Toxic Threats work. (Same as MRW 1.)*

Milestone IND H: Multiple states have agreed on a chemical assessment protocol to identify safer alternatives to priority chemicals. Safer alternatives are identified for ten priority chemicals.

Implementation Strategy: The first focus is implementing the Children's Safe Products Act (CSPA). Assess the need for additional authority to make more reductions in the use of toxics in products. Encourage the development of green chemistry curricula in higher education. Conduct sector campaigns on safer alternatives, with the first one on metals.

What We Did:

- Finalized the CSPA reporting rule in 2011, created an on-line reporting system and database to store reports, and started collecting data from companies in August 2012. By the fall of 2013, we will have data from the largest companies (manufacturers of children's products) whose products contain chemicals of high concern to children.
- We have also been testing children's products for compliance with the reporting law and rule. Additional product testing was conducted to check compliance with toxics in packaging and flame retardant regulations.
- Staff undertook a multi-stakeholder process to develop safer alternatives assessment guidance, completed January 2014. The guidance is intended to be used by varying organizations to assess

safer alternatives to priority chemicals in use (not identified yet). Began developing a proposal to "test" the guidance by evaluating copper in boat paint.

- We have seed funding to create a green chemistry center in Washington and will be working on a business plan in 2014. We have conducted "green chemistry" high school teacher training.
- A sector campaign on lead, mercury, and cadmium was completed in fall 2013.
- Coordinated a coalition of states to develop "state principles of TSCA reform," responded to federal bills regarding TSCA reform, and sent staff to Washington D.C. to testify on the Chemical Safety Improvement Act of 2013.
- Conducted a multi-stakeholder process to examine a broad toxics reduction strategy resulting in a white paper with ten recommendations. A copy of the paper can be found on the Toxic Reduction Strategy Workgroup web page.

What We Didn't Do:

- We did not develop a comprehensive strategy to ensure household hazardous waste (HHW) is properly disposed.
- As of 2013, safer alternatives have not been identified for ten priority chemicals. There are still plans to identify some alternatives over the next year and a half.

Summary of Progress: Significant progress. Ecology is collecting and analyzing data on toxics in children's products, promoting higher education green chemistry curriculum, beginning to use safer chemical alternatives guidance, and completed sector campaign outreach to businesses to reduce toxic metals use. Contributed to national efforts to revise TSCA. Still need to commence work on safer alternatives for priority chemicals.

Recommendation IND 9: *Use the sector approach as the framework to help implement the agency's initiatives.*

Milestone IND I: Government is leading by example, with significantly less waste generation and toxic substance use at the local, state, and federal levels.

Milestone IND J: At least two successful sector campaigns that reduced greenhouse gases, toxics in products, and toxic releases going into Puget Sound and Washington waters are complete.

Implementation Strategy: This is one of HWTR's top priorities. Assist state agencies to implement the Governor's executive orders on sustainability, providing environmentally preferable purchasing (EPP) technical assistance, and encouraging government at all levels to participate in sector campaigns.

The first planned sector campaign will likely focus on reducing the use of toxic metals and using safer alternatives. The second campaign may focus on using safer alternatives to existing solvents and/or polycyclic aromatic hydrocarbons (PAHs).

What We Did: HWTR P2 staff conducted a sector campaign on reducing toxic metals. Also, Ecology released a series of white papers on how to purchase specific EPP products and worked with the Washington Department of Enterprise Services and our two sister agencies in Oregon to issue "green-only" janitorial supplies contract.

What We Didn't Do: We did not conduct a second sector campaign, nor did we focus on working with governments to reduce waste and toxics use, other than the P2 plans. We stopped assisting state agencies on sustainability, partly due to budget cuts and partly due to the agencies' need to focus more on greenhouse gas reporting in response to new legislation.

Summary of Progress: Some progress. A sector campaign on reducing toxic metals was completed. Progress was made on governmental EPP information and opportunities. The second sector campaign and getting more governments to lead by example were not done.

Recommendation IND 10: *Support the creation of green jobs and a green economy while emphasizing ways to reduce the use of toxic chemicals and generation of wastes.*

Milestone IND K: The Governor's strategy on creating green jobs and a green economy for Washington State includes ways to minimize the use of toxics.

Implementation Strategy: Support the Governor's and President's efforts in this area when appropriate.

What We Did: While recovery from the Great Recession became the focus of the Governor's and Presidents' efforts, green jobs did not become a focus of either administration. Consequently, it was not something Ecology put a lot of effort into. We have considered a green jobs indicator as part of the Beyond Waste progress report but the existing state and federal numbers include jobs that Ecology staff doesn't consider "green."

What We Didn't Do: We did not try to promote green jobs by ourselves.

Summary of Progress: No progress due to no Governor action on a green jobs/economy strategy.

Recommendation IND 11: *Help minimize the release of toxics into stormwater.*

Milestone IND L: An effective strategy exists, which minimizes toxics in stormwater. Ecology's Hazardous Waste and Toxics Reduction (HWTR), Waste 2 Resources (W2R), and Water Quality (WQ) programs coordinate efforts for managing toxic chemicals in stormwater.

Implementation Strategy: Ties in with Local Source Control, Urban Waters, and chemicals of concern work. Continue to provide technical assistance and information on prevention and management of stormwater. Complete stormwater demonstration project.

Use data to help design any future technical assistance and outreach efforts. Identify safer alternatives to highest-priority sources of pollution for Puget Sound, based in part on the toxics loading study and Puget Sound stormwater strategy.

What We Did: HWTR worked with WQ over the last few years to integrate hazardous waste compliance with stormwater issues. Stormwater compliance inspector training was conducted. Outreach efforts included development of a poster ("Only Rain Down the Drain") and the *Focus on Stormwater Threats to Puget Sound* publication (#09-04-032). We also worked to coordinate our efforts with the Stormwater Center that Washington State University (WSU) operates.

What We Didn't Do: Ecology did not complete a stormwater demonstration project on filtering toxics out of stormwater. Instead, the WSU Stormwater Center has been working on various stormwater-related demonstration projects. Ecology has not yet identified safer alternatives to the sources of pollution to Puget Sound. Due to the Washington legislation that passed in 2011, the current plan is to conduct an alternatives assessment on boat paint. This work should be completed over the next year and a half.

Summary of Progress: Significant progress. Actions taken to reduce toxics in stormwater include inspector training on stormwater, technical assistance to businesses, and outreach publications about threats to stormwater. Still need to identify safer alternatives to the sources of pollution in Puget Sound.

Recommendation IND 12: *Implement the Toxic Reduction Advisory Committee (TRAC) recommendations.*

Milestone IND M: The majority of the TRAC recommendations are implemented.

Implementation Strategy: Focus on implementing low-cost recommendations with primary emphasis on first eliminating or minimizing the most toxic chemicals while continuing to promote changes to the statute. Regulations will be modified after statute changes are adopted.

What We Did: We focused on implementing the low-cost recommendations while addressing the most toxic chemicals. See IND 1 for more information.

What We Didn't Do: The statute changes were not adopted by the Legislature and therefore no regulatory changes have been made.

Summary of Progress: Little progress. Implemented P2 planning recommendations that could be done without statutory changes (See IND 1). Other recommendations require legislative action.

Recommendation IND 13: *Support product stewardship legislation (including framework and/or individual product legislation) and EPP legislation as recommended by the Governor's Climate Action Team.*

Milestone IND N: A statewide product stewardship framework is in place and three or more new products are included in that framework. Alternatively, comparable product stewardship legislation is in place for individual products.

Milestone IND O (MRW I): Legislation is modified to support more EPP, a program to track EPP purchases is in place, and sales of EPP goods and services are increasing.

Implementation Strategy: Seek or support legislation for EPP and require tracking of EPP purchases. Act on the Climate Action Team (CAT) recommendations and assist other organizations promoting product stewardship and EPP legislation with research and legislative support.

What We Did: We supported product stewardship legislation introduced in the Legislature. Mercury lights legislation was adopted by the Legislature in 2010, which is Washington State's second piece of product legislation (electronics legislation was passed prior to the adoption of this plan update). Ecology has been working to adopt regulations to implement the mercury lights legislation since then.

We also supported EPP legislation. A purchasing reform bill passed in 2012, which includes a best value provision that supports EPP. We have worked with Department of Enterprise Services (DES) to implement this bill. Ecology has worked hard to implement EPP within the agency. It appears there are more EPP purchases within the agency, but we lack a tracking system to determine if this is true.

What We Didn't Do: No other product stewardship legislation other than mercury lights has passed the Legislature despite various bills on carpet, paint, batteries, and pharmaceuticals. Mercury lights implementation was stalled due to a lawsuit relating to the mercury lights regulations, but legislation was passed in the 2014 session to address the issue.

Summary of Progress: Some progress. Supported product stewardship legislation for mercury-containing lights (adopted in 2010). An EPP provision is contained in the purchasing reform bill (adopted in 2012). EPP at Ecology is gaining ground, however mercury-light implementation was stalled, no other product stewardship laws have passed, and increased EPP at Ecology is difficult to document.

Recommendation IND 14: *Educate the public and businesses on prevention, proper use, storage, and disposal of hazardous products and wastes. Encourage safer alternatives to minimize toxic threats, especially to vulnerable populations. (Same as MRW 11)*

Milestone IND P (MRW M): Statewide education to minimize toxic threats is in place and complements local and regional efforts.

Milestone IND Q (MRW N): Fewer toxic products are purchased, misused, and disposed of improperly. The public is more aware of what chemicals are in products.

Implementation Strategy: Provide educational assistance to local governments, businesses, individuals, households, schools, and community groups, including a toll-free phone line. Integrate sector campaigns into educational efforts. Provide education materials applicable to and easily replicated by local governments. Determine the environmental impact of common household toxic chemicals. Direct grant funds towards these educational efforts.

What We Did: Prior to 2012 budget cuts, HWTR had a limited campaign to provide outreach to households – the Toxic Free Tips program. The campaign included easily replicated educational materials, a website, and a toll-free phone line. We also participated in updating and distributing a curriculum called Hazards on the Homefront, and provided workshops for teachers to encourage its use.

We have continued to provide educational materials to business regarding dangerous waste generation, although the production of materials has occurred at a slower rate due to staff cuts.W2R program continues operation of the 1800 recycle website and hotline which among other things provides information on where to take spent products that contain toxics, especially electronics.

What We Didn't Do: The Toxic Free Tips program was eliminated in 2012 due to a shortfall in the state budget that resulted in cuts to HWTR's education and outreach. The program curtailed all public education and outreach activities, and reduced services to businesses.

Summary of Progress: Little progress. Established a limited campaign to provide outreach to households – the Toxic Free Tips program, which included educational material, a website, and a toll-free phone line (cut in 2012 due to budget); continued 1-800-recycle hotline and database information on safely recycling products.

Reducing Small Volume Hazardous Materials and Waste

Recommendation MRW 1: *Eliminate or minimize groups of the most toxic chemicals as part of Ecology's Reducing Toxic Threats work. (Same as IND 8.)*

Milestone MRW A (IND H): Multiple states have agreed on a chemical assessment protocol to identify safer alternatives to priority chemicals. Safer alternatives are identified for ten priority chemicals.

Summary of Progress: Small Volume Hazardous Materials & Waste	
No Progress (0)	1
Little Progress (1)	7
Some Progress (2)	3
Significant Progress (3)	4
Completed (4)	0
Total Milestones	**15**
Total Recommendations	**12**

Implementation Strategy: Start implementing the Children's Safe Products Act (CSPA) (www.ecy.wa.gov/programs/swfa/cspa/) by developing a list of chemicals of high concern for children. Assess the need for additional authority to make more reductions in the use of toxics in products. Encourage the development of green chemistry curricula in higher education. Conduct sector campaigns on safer alternatives, with the first one on alternatives to metals.

What We Did:

- Finalized the CSPA reporting rule in 2011, created an on-line reporting system and database to store reports, and started collecting data from companies in August 2012. By the fall of 2013, we will have data from the largest companies (manufacturers of children's products) whose products contain chemicals of high concern to children.
- We have also been testing children's products for compliance with the reporting law and rule. Additional product testing was conducted to check compliance with toxics in packaging and flame retardant regulations.
- Staff undertook a multi-stakeholder process to develop safer alternatives assessment guidance, completed January 2014. The guidance is intended to be used by varying organizations to assess safer alternatives to priority chemicals in use (not identified yet). Began developing a proposal to "test" the guidance by evaluating copper in boat paint.
- We have seed funding to create a green chemistry center in Washington and will be working on a business plan in 2014. We have conducted "green chemistry" high school teacher training.
- A sector campaign on lead, mercury, and cadmium was completed in fall 2013.
- Coordinated a coalition of states to develop "state principles of TSCA reform," responded to federal bills regarding TSCA reform, and sent staff to Washington D.C. to testify on the Chemical Safety Improvement Act of 2013.
- Conducted a multi-stakeholder process to examine a broad toxics reduction strategy resulting in a white paper with ten recommendations. A copy of the paper can be found on the Toxic Reduction Strategy Workgroup web page.

What We Didn't Do:

- We did not develop a comprehensive strategy to ensure household hazardous waste (HHW) is properly disposed.
- As of August 2013, safer alternatives have not been identified for ten priority chemicals. There are still plans to identify some alternatives over the next year and a half.

Summary of Progress: Significant progress. Ecology is collecting and analyzing data on toxics in children's products, promoting higher education green chemistry curriculum, beginning to use safer chemical alternatives guidance, and completed sector campaign outreach to businesses to reduce toxic metals use. Contributed to national efforts to revise TSCA. Still need to commence work on safer alternatives for priority chemicals.

Recommendation MRW 2: *Reduce threats from mercury.*

Milestone MRW B: Product stewardship systems for fluorescent and other mercury-containing lamps, mercury thermostats, and other mercury-containing devices are in place. Mercury in biosolids continues to diminish.

Milestone IND R: The Washington State Mercury Chemical Action Plan (WSMCAP) (https://fortress.wa.gov/ecy/publications/SummaryPages/0303001.html) has been fully implemented for hospitals, auto switches, and lamps. A national repository for mercury is in place, resulting in significantly less mercury in the environment.

Implementation Strategy: Report to the Legislature on methods to collect and safely manage mercury from compact fluorescent lamps (CFLs) by December 2009. Continue to collect mercury from auto switches. Address the possibility of a permanent national mercury repository.

Use Coordinated Prevention Grants (CPG) and Public Participation Grants (PPG) to collect mercury and reduce mercury product use. Partner with NGOs, local government, and CFL manufacturers. Help reduce and eliminate mercury by supporting and implementing the Washington State Mercury Chemical Action Plan (WSMCAP), including actions to support moderate risk waste (MRW) collections, technical assistance to businesses, education to businesses, households, and schools, and supporting a mercury collection, repository, and recycling infrastructure. We need to build on the growing momentum of product stewardship for mercury.

What We Did:

- The Mercury Lights Law was passed in 2010, creating a product stewardship system for mercury-containing lights.
- Completed Mercury-containing Lights Product Stewardship Program Rule (Dec 2012).
- Hired state-contracted stewardship organizations, one contractor completed the Ecology-approved Product Stewardship Plan (Standard Plan) and organized some of the program setup and infrastructure for the anticipated start on January 1, 2013.
- Worked with National Electronics Manufacturers Association (NEMA) and other stakeholders to draft legislation for the 2014 session to fix the funding issue in the law.
- Mercury in biosolids throughout Washington is measured prior to land application and Ecology compiles the data annually. Since 2009, throughout Washington the average reported level of mercury in biosolids dropped from 1.12 ppm to 0.85 ppm.
- Used CPG funds to support collection of mercury-containing lights at MRW facilities.
- We lowered the detection limit for mercury in our discharge permits (Mercury CAP recommendation).
- We worked with dentists to install amalgam separators (Mercury CAP recommendation).
- Negotiated a deal with Trans Alta (Centralia coal-fired plant) to switch from coal to natural gas.

- Continued work with auto-recyclers to implement the auto mercury switch removal program.

What We Didn't Do:

- Ecology was sued by mercury light producers in December 2012 (over the funding requirements in the rule); the case was heard in Thurston County Superior Court in May 2013. The judge ruled in favor of NEMA, thereby halting program implementation.
- While some MRW facilities continue to collect mercury-containing lights, we did not collect any mercury-containing lights through the product stewardship program.

Summary of Progress: Some progress. Mercury-containing lights product stewardship program proceeding with implementation since legal issues were resolved in 2014 session, reduced environmental mercury discharges from Trans Alta, dentists, other permitees and through local government's collection of mercury lights, thermostats, and other mercury containing devices. National repository for mercury is not in place.

Recommendation MRW 3: *Reduce threats from PBTs (Persistent, Bioaccumulative Toxins).*

Milestone MRW C: The Lead Chemical Action Plan (CAP) is implemented and additional work is being done on other PBTs.

Implementation Strategy: Develop legislation, including stakeholder work, to address legacy lead paint (Fall 2009). Implement lead wheel weight bill including notifying tire manufacturers and dealers of the ban (January 2011). Complete a CAP for polycyclic-aromatic hydrocarbons (PAHs) (Fall 2011). Complete a CAP for perfluoro-octane sulfonates (PFOS) (Spring 2012). Update the PBT rule and refine the list of PBTs (Spring 2013).

What We Did:

- The lead wheel weight ban has been fully implemented.
- Development of PFOS CAP has been delayed, replaced by work on a polychlorinated biphenyl (PCB) CAP.
- The PAH CAP is complete and several recommendations are being implemented (see below). Coal-tar sealants were banned.
- Two projects to remove creosote pilings from Puget Sound are under way using National Estuary Program (NEP) funding.
- NEP funding is also being used to supplement the wood stove replacement program administered by the Puget Sound Clean Air Agency. There is another project to provide incentives to develop advances in wood stove design and technology to further reduce pollution.
- NEP is also funding a project to study whether or not railroad ties located near sensitive water bodies pose a PAH pollution risk.

What We Didn't Do:

- Actions to reduce legacy lead paint are ongoing with DOH but slowly.
- The PBT rule update has been delayed until 2014.

Summary of Progress: Significant progress for select PBTs. PAH CAP completed and implementation started through action to ban coal tar sealants as well as addressing creosote pilings, railroad ties, and wood smoke. Lead CAP implemented through legislation to ban lead wheel weights. PCB CAP underway; still need to revise PBT Rule.

Recommendation MRW 4: *Develop a more comprehensive list of covered electronics through a product stewardship infrastructure.*

Milestone MRW D: The scope of electronic products covered by the existing producer-provided program expands beyond the current four categories (TVs, computers, computer monitors, and laptops).

Implementation Strategy: The first priority is to oversee the current electronics collection program. After 2010, explore expanding coverage to products that meet the definitions in the existing rules; seek or support legislation to expand coverage to products that do not meet the current definition.

What We Did:

- Ecology and the Washington Materials Management & Financing Authority (WMMFA) implemented the E-Cycle Washington program in January 2009 when the collection of electronics for recycling began.
- The program was expanded in 2011 to add E-readers and in 2013 to add portable DVD players.

What We Didn't Do:

- Ecology has not yet sought to amend the law to expand the scope of products covered in the E-Cycle Washington program. However, that task is planned for the 2015 legislative session.

Summary of Progress: Significant progress. Electronics product stewardship program (E-cycle Washington) fully implemented. Added DVD players but still need legislation to expand products accepted.

Recommendation MRW 5: *Reduce the use of high-risk pesticides, emphasize proper use, and encourage effective alternatives.*

Milestone MRW E: The amount of high-risk, non-agricultural pesticides found in urban waters has decreased.

Milestone MRW F: The use of non-agricultural pesticide alternatives and lower-risk pesticides has increased as indicated by shelf surveys or other methods.

Milestone MRW G: The number of school districts, municipalities, and other government entities using integrated pest management (IPM) and other alternatives has increased. IPM programs stress preventive pest control with pesticides used as a last resort.

Implementation Strategy: Gather available residential pesticide metrics to establish a measurement of pesticide purchase and/or use (summer 2010). Track environmental trends using Ecology or other available data. Track use of IPM or other pest management strategies statewide, especially in schools (2011). Develop a strategy to reduce the use of non-agricultural pesticides (2012). Share King County's Natural Yard Care and other educational materials produced by the Washington Waters Campaign with local governments (2009).

What We Did:

- A shelf survey template was created to ensure that CPG and PPG grant recipients were all the using the same method and protocol for data entry. This ensured that the collected data would be able to be used across the state.
- Ecology continues to work with WSDA to monitor pesticide concentrations in select salmon-bearing streams around the state. This long-term monitoring has shown decreasing trends for some pesticides, increasing trends for others.
- Ecology provided WSDA with National Estuary Program (NEP) funding to conduct a survey to gather information about residential pesticide use.
- Shared information about CPG-funded projects focusing on natural yard care and IPM through Information Clearing House.
- Participated in the Urban Pesticide Education Strategy Team (UPEST) (a group of state entities and EPA) that focuses on programs jointly addressing urban pesticide issues.

What We Didn't Do:

- A shelf survey methodology was documented, but was found to be unreliable as a measure of the use of alternatives to pesticides or lower-risk pesticides.
- Have not yet identified an accurate way to measure pesticide use (explored purchasing sales data and shelf surveys). Now working with WSDA on use survey.
- Have not developed a strategy to reduce non-agricultural pesticide use.
- Have not yet developed a way to track the use of IPM in schools, municipalities, and other government entities.

Summary of Progress: Little progress. Unable to develop ways to measure usage of pesticides or safer alternatives. Some stream-monitoring showing increases in some pesticides decreases in others.

Recommendation MRW 6: *Reduce and manage all architectural paint wastes.*

Milestone MRW H: An industry-provided management system for leftover architectural paint is created through the passage of paint product stewardship legislation or product stewardship framework legislation that includes paint.

Implementation Strategy: Track the development of paint product stewardship efforts in other jurisdictions (ongoing). Support the passage of a paint product stewardship bill as the opportunity arises. Promote paint recycling efforts statewide, along with the use of recycled paint (ongoing). Work with partners to develop, set, and evaluate performance measures in Washington (2010).

What We Did:

- Ecology staff continued to track paint product stewardship efforts in other jurisdictions including: legislative efforts (CA, CT, RI, VT, ME, MN, and OR), development of regulations (CA), and the ongoing implementation of Oregon's PaintCare program.
- Staff worked with the Northwest Product Stewardship Council (NWPSC) and the American Coatings Association (ACA) to bring legislation to Washington in 2012 and 2013 (did not pass either year).
- Staff led the NWPSC paint sub-committee and participated in national calls regarding paint product stewardship.
- Staff continue to provide valuable input on paint stewardship issues such as anti-trust provisions, convenience standards, reporting criteria, regulatory issues (compatibility with dangerous waste regulations), and toxicity of latex.
- We continue to track paint collections through MRW facility data, which feeds into the paint indicator of the state plan.
- DES (in coordination with Ecology) contracted with Responsible Purchasing Network to develop a document entitled "Green Purchasing Opportunities: Paints and Coatings," which includes the latest information on recycled paint.
- Developed and published EPP fact sheet on buying recycled paint (2010).

What We Didn't Do:

- Little effort was placed on promoting paint recycling or use of recycled paint. Very little paint has been purchased under the state contract for recycled paint and neither Ecology nor DES have resources to put towards this effort.

Summary of Progress: Little progress. The Paint Product Stewardship Law has not passed, but progress was made in building local government support for paint product stewardship and creating documents on opportunities to buy recycled paint.

Recommendation MRW 7: *Implement and promote environmentally preferable purchasing at state and local governments and in institutional settings, with Ecology leading by example. Support the Climate Action Team proposals and other initiatives.*

Milestone MRW I (IND O): Legislation is modified to support more environmentally preferable purchasing (EPP), a program to track EPP purchases is in place, and sales of EPP goods and services are increasing.

Implementation Strategy: Seek or support legislation to promote EPP and require tracking of EPP purchases. Continue to provide technical assistance to encourage agencies and local governments to adopt EPP principles and practices. Align EPP targeted products with agency priorities to address climate change and reduce toxic threats. Act on the Climate Action Team (CAT) recommendations and assist other organizations promoting EPP legislation with research and legislative support. Continue to support efforts to track EPP purchases. Link EPP priorities to the next proposed sector campaign. Focus on products where known safer alternatives exist. Analyze, promote, and support quality independent third-party certification systems. Leverage EPP through CPG and PPG funds.

What We Did:

- In 2010, Ecology worked with Department of Enterprise Services (DES; formerly GA) to develop draft EPP legislation and conduct outreach to stakeholders. A purchasing reform bill passed in 2012, which includes a best value provision that supports EPP.
- Staff provides a Green Purchasing listserv (96 members).
- Ecology substantially revamped the EPP website in 2012 to provide more targeted messaging on the benefits of EPP and of reuse programs that reduced purchasing of new products.
- Ecology worked with DES and Department of Information Services (DIS) to develop a statewide policy on greener electronic equipment purchases.
- EPP criteria were inserted into the Public Participation Grant (PPG) Guidelines and evaluation process. EPP suggestions were included in the Coordinated Prevention Grant (CPG) Guidelines and the Final Performance Analysis comments. The CPG website now includes a link to EPP suggestions for grant recipients.
- With contractor funding, Ecology and DES developed "Opportunity Assessments" on a variety of products that offer guidance to state and local governments on EPP.
- Ecology has worked hard to implement EPP within the agency. It appears there are more EPP purchases within the agency, but we lack a tracking system to determine if this is true.

What We Didn't Do:

- Due to lack of staff resources, we did not link EPP priorities to the next proposed sector campaign.
- Little progress was made on tracking EPP purchases internally due to limitations of purchasing tracking system. However, an initial "inventory" was conducted in 2010, and was a focus for 2013.

- Work with other state agencies has decreased in the last several months due to EPP staff reduction, lack of Interagency Sustainability Coordinators group, and recession.

Summary of Progress: Significant progress. Considerable technical assistance was provided to governments, EPP criteria were added to grant programs, and the purchasing reform bill includes EPP.

Recommendation MRW 8: *Ensure MRW and hazardous substances are regulated and managed according to hazards, toxicity, and risk.*

Milestone MRW J: Ecology staff has researched regulatory change strategies for preventing threats from MRW and hazardous substances. The agency is moving in the recommended direction. Along with Ecology, local governments focus on preventing threats from MRW.

Implementation Strategy: Evaluate existing statutes and regulations to ensure we are managing currently produced wastes according to hazards, toxicity, and risk. Also, evaluate how laws promote prevention of hazardous substances and risky wastes. Analyze approaches used by others to reduce MRW and hazardous substance generation including green chemistry and product stewardship strategies. Identify and seek needed regulatory and statutory changes to solid and hazardous waste laws for effective prevention.

What We Did: A small team evaluated existing statutes and regulations and found that in some cases we are managing waste according to hazards, toxicity, and risk, and in others we are not. For example, in some cases, MRW is identical to hazardous waste, but MRW is managed as solid waste. Therefore, MRW is not managed according to hazards and toxicity. However, within solid waste, MRW is given special attention in attempts to minimize the hazard.

We have worked on product stewardship legislation for "hazardous" materials (mercury-containing lights, rechargeable batteries, oil-based paint) and have promoted the development of a green chemistry center here in the Pacific Northwest.

What We Didn't Do: The categorization of MRW as solid waste stems from federal regulations, and we failed to identify a statutory or regulatory change that would allow us to regulate MRW according to hazards, toxicity, and risk.

Summary of Progress: Little progress. Staff evaluation found that MRW is not managed according to hazards and toxicity and change is constricted by federal authorities. However, within solid waste, MRW is given special attention in attempts to minimize the hazard.

Recommendation MRW 9: *Support full implementation of local hazardous waste plans.*

Milestone MRW K: Local hazardous waste plans are up-to-date and being fully implemented according to Chapter 70.105 RCW[3] and the new local hazardous waste planning guidelines.

Implementation Strategy: Provide comprehensive and timely review of local plans. Focus technical assistance on waste reduction rather than waste management, in partnership with local governments. Leverage and support comprehensive planning at the local level through CPG funds. This is an ongoing task.

What We Did: W2R regional planning staff continue to review, comment, and approve plans as required. They work closely with other regional staff (MRW and CPG coordinators) to provide technical assistance to counties. There is no statutory requirement to update local hazardous waste plans, but many counties have combined their solid and hazardous waste plans. In 2010, the local hazardous waste planning guidelines were updated.

- Ten counties have stand-alone hazardous waste plans in implementation phase.
- Fourteen counties have combined solid and hazardous waste plans that have been updated in the last five years.
- Thirteen counties have plan updates or reviews under way.
- Two counties appear to be behind in their planning activities.

What We Didn't Do: Other than tracking CPG-funded projects, there is no good way to track implementation of hazardous waste plans.

Summary of Progress: Some progress. W2R planning staff continue to review, comment, and approve the many local plans that were submitted; no tracking of implementation.

Recommendation MRW 10: *Ensure businesses and facilities handling MRW comply with environmental laws and regulations. Encourage as much reuse and recycling of MRW as possible.*

Milestone MRW L: MRW facilities, including treatment, storage, and disposal facilities separately handling MRW, comply with Chapter 173-350 WAC. The facilities reuse or recycle an increasing proportion of MRW.

Implementation Strategy: Provide technical assistance to local governments. Review MRW permits and hazardous waste plans. Target facilities needing to be upgraded using CPG funding. Inspect and audit facilities. This is all ongoing work.

[3] Revised Code of Washington

What We Did: Local health departments permit MRW facilities and are responsible for inspections, but every five years or so, Ecology's regional MRW specialists accompany local health department personnel on facility site inspections. In 2009-2010, 57 facilities were visited. These periodic visits allow Ecology to monitor compliance and identify areas of concern to be considered in an update to MRW regulations (WAC 173-350). Improvements between 2006 and 2009 included installation of explosive gas monitoring and ventilation systems, and better secondary containment. Areas of concern included general housekeeping, record keeping, and signage issues.

What We Didn't Do: Due to a rule moratorium, updates to WAC 173-350 did not occur. Based on data received from MRW facilities, recycling and reuse have not increased.

Summary of Progress: Some progress. Visited all 57 MRW facilities to monitor compliance, still planning to update MRW regulations; however, no increase in recycling or reuse of MRW.

Recommendation MRW 11: *Educate the public and businesses on prevention, proper use, storage, and disposal of hazardous products and wastes. Encourage safer alternatives to minimize toxic threats, especially to vulnerable populations.* (Same as IND 14)

Milestone MRW M (IND P): Statewide education that minimizes toxic threats is in place and complements local and regional efforts.

Milestone MRW N (IND Q): Fewer toxic products are purchased, misused, and disposed of improperly. The public is more aware of what chemicals are in products.

Implementation Strategy: Provide educational assistance to local governments, businesses, individuals, households, schools, and community groups, including a toll-free citizen hotline. Integrate sector campaigns into educational efforts. Provide educational materials applicable to and easily replicated by local governments. Determine the environmental impact of common household toxic chemicals. Direct grant funds toward these educational efforts.

What We Did: Prior to 2012 budget cuts, the HWTR program had a limited campaign to provide outreach to households – the Toxic Free Tips program. The campaign included easily replicated educational material, a website, and a toll-free phone line. We also participated in updating and distributing a curriculum called Hazards on the Homefront, and provided workshops for teachers to encourage its use.

We continue to provide educational materials to businesses regarding dangerous waste generation, although materials are produced at a slower rate due to staff cuts. Proper end of life management options for electronics, lights and other hazardous products continued to be provided through the 1-800 recycle hotline and database.

What We Didn't Do: The Toxic Free Tips program was eliminated in 2012 due to a shortfall in the state budget that resulted in cuts to HWTR program's education and outreach activities. The program curtailed all public education and outreach activities, and reduced services to businesses.

Summary of Progress: Little progress. Established a limited campaign to provide outreach to households – the Toxic Free Tips program, which included educational material, a website, and a toll-free phone line (cut in 2012 due to budget). Continued 1-800-recycle hotline and database information on safely recycling products.

Recommendation MRW 12: *Develop and implement a strategy for a more regionally focused MRW program by evaluating the most significant threats and effective approaches, including safer alternatives, to reducing those threats.*

Milestone MRW O: A regional MRW strategy, based on existing and new studies, is developed and being implemented.

Implementation Strategy: Assess what we now know about MRW generation in Washington using existing reports and research. Identify the most significant threats, effective approaches, and safer alternatives. Develop and implement a long-term strategy to reduce generation and improve management of MRW.

What We Did: A small team researched MRW generation and developed a presentation that was shared with HWTR and W2R management teams, NAHMMA, and statewide MRW coordinators.

There is little reliable research on quantifying the "universe" of MRW generation; therefore, it is difficult to calculate a collection rate. Fully explored Oregon Department of Environmental Quality's (DEQ's) research in this area and considered replicating their study in Washington but no funding was available and we weren't convinced the results would be that different in Washington. We are pursuing an approach that continues to support local government infrastructure to collect MRW, while developing product stewardship systems to handle more "toxic" elements of the MRW waste stream.

What We Didn't Do: We did not create a prioritization system for identifying the most significant threats because it seemed impractical, and would likely be a time-consuming undertaking. We did not develop a long-term strategy.

Summary of Progress: No progress. Report reviewed; no strategy developed.

Increasing Recycling for Organic Materials

Recommendation ORG 1: *Lead by example in government.*
Recommendation ORG 2: *Increase residential and commercial organics recovery programs.*
Recommendation ORG 3: *Improve quality of recycled organic products.*
Recommendation ORG 4: *Develop a strategy to increase industrial and agricultural organics.*
Recommendation ORG 5: *Propose solutions to statutory and regulatory barriers.*
Recommendation ORG 6: *Develop new products and technologies for organic residuals.*

Summary of Progress: Organics	
No Progress (0)	1
Little Progress (1)	4
Some Progress (2)	7
Significant Progress (3)	1
Completed (4)	0
Total Milestones	**13**
Total Recommendations	**6**

Milestone ORG A: A strategy for increasing agricultural and industrial organics recycling is being implemented. *Addresses Recommendation ORG 4*

Implementation Strategy:

Partner with other agencies and relevant stakeholders to create and implement a consensus-based strategy to increase industrial and agricultural organics recovery. Align multiple stakeholder interests to create a beneficial use hierarchy for recycled organic materials. Identify barriers and opportunities for increasing industrial and agricultural organics recovery. Continue support for research and development of new recycled organic materials and processes. Soil carbon sequestration practices have increased.

What We Did:

- W2R staff and WSU staff have researched and written papers on a variety of organics issues, from carbon sequestration in soils to the creation of biofuels, bioenergy, biochar, and soil amendments from organic residues. These ongoing research efforts represent a foundation for future projects as money becomes available.
- W2R staff participate in various local government e.g., Solid Waste Advisory Committee (SWAC)) and non-profit groups (e.g., Washington Organics Recycling Council (WORC), Washington State Recycling Association (WSRA), Center for Sustaining Agriculture and Natural Resources (CSANR)) to promote education, outreach, and market development for organics diversion to beneficial end uses. (Diversion of all organics from the residential sector and of pre-consumer food from commercial sources has been so successful that the organics management infrastructure is overwhelmed. New efforts to improve Washington's organics management infrastructure must be initiated.)
- Ecology staff commented on the Food and Drug Administration (FDA) Food Safety Modernization Act (FSMA) in an effort to remove regulatory barriers on use of compost on crops identified in the FSMA document.

What We Didn't Do:
No real strategy has been developed, but W2R staff work on initiatives with local citizens as the opportunity arises. Staff turnover and reduced budget in W2R delayed development of in-depth partnerships with relevant stakeholders with a specific focus on identifying barriers and opportunities for increasing industrial and agricultural organics recovery.

Summary of Progress: Some progress. Research continued on developing new recycled organics materials and processes. Still need to focus on creating an overall organics strategy and hierarchy.

Milestone ORG B: Effective incentives for organics recycling are identified and pursued. *Addresses Recommendation ORG 2*

Implementation Strategy: Collaborate with others to increase residential, commercial, and agricultural organics recovery and identify key elements of successful organics recycling programs including incentives. Planners help local government add organics goals, recommendations, and milestones to solid waste plans, including a focus on backyard composting educational programs. Support organics programs through CPG and PPG funds.

What We Did:

- So far, the best incentive to divert organics has been to implement or expand the collection of organics from residential sources. In addition, more pre-consumer food has been collected from commercial customers. Between 2009 and 2011, the diversion of organics from disposal to more beneficial end uses rose from 1,944,426 tons to 2,617,160 tons.
- W2R staff continue to support local government efforts to implement or improve local collection and conversion of organics through participation in various local government (e.g., SWAC's) and non-profit groups (e.g., WORC, WSRA, CSANR).
- The grants programs continue to support local government opportunities to develop and implement organics collection and educational programs. In the 2011-2013 grant cycle, the diversion of over 96,000 tons of organics was a result of grant-supported programs.

What We Didn't Do: Staff and resource constraints resulted in a few projects being put on hold, including creation of a beneficial use hierarchy for all organics and identification of key elements of a successful organics recycling program. Both of these projects would facilitate effective incentives for increased diversion of organics. Staff began identifying the number of government agencies and schools that collect organics for recycling with the intent of providing technical assistance to these organizations to increase organics recycling. This project is expected to be completed in the 2013-2015 biennium.

Increases in the collection of food residuals resulted in an increase in non-compostable material entering composting facilities so future efforts must focus on the reduction of contaminants.

Summary of Progress: Significant progress. Since 2009, local efforts, with the support of grants funding, have significantly increased diversion of organics from disposal.

Milestone ORG C: Home composting programs are active and successful in every county. *Addresses Recommendation ORG 2*

Implementation Strategy: Planners help local government add organics goals, recommendations, and milestones to solid waste plans, including a focus on backyard composting educational programs. Support the network of home compost educators with technical assistance and tools to improve compost, healthy soils education, and natural yard care programs through staff support, CPG, and PPG funds.

What We Did:

- Support for backyard composting programs exists in a number of cities and counties, usually the more densely populated ones. Online information on how to set-up a backyard composting system is available to all residents of Washington either through county websites or through the Ecology site.
- W2R staff produced a *Home Composting Survey* report in 2012. A rough estimate indicates that approximately 88 percent of Washington residents have access to yard and garden recycling options (curbside and/or drop-off), and a very conservative estimate indicates that approximately 51 percent of Washington residents have access to food collection options.
- W2R planning staff attends SWAC meetings and works one-on-one with local government staff to promote the inclusion or expansion of local organics programs when feasible and appropriate.
- In the 2011-2013 grant cycle, approximately ten counties requested grant funds to support backyard-composting activities.

What We Didn't Do: Staff and resource constraints prevented more educational and technical support.

Summary of Progress: Some progress. Approximately 88 percent of Washington residents have access to yard and garden recycling options (curbside and/or drop-off). Approximately 51 percent of Washington residents have access to food collection options.

Milestone ORG D: The quality of recycled organic products has improved. *Addresses Recommendation ORG 3*

Implementation Strategy: Support the network of home compost educators with technical assistance and tools to improve compost, healthy soils education, and natural yard care programs. Identify key areas where recycled organic product quality is poor. Recommend actions to improve quality of recycled organic products.

What We Did:

- Great success in increasing the amount of food collected from residential and commercial sources has helped W2R staff identify areas where the quality of collected organics needs improvement.
- King County has requested grant support to initiate a public education campaign to reduce contamination in collected food streams, which, if successful, will improve compost quality.
- The Ecology website was used to notify residents of the problems associated with persistent pesticides in compost. Ecology and state composters worked with the WSDA to stop or restrict the sale of those pesticides in Washington.
- Several fact sheets are available on Ecology's Compost and Healthy Soil web page under the "Tools" section. The fact sheets increase awareness of healthy soil.
- W2R staff participated in a variety of groups (WORC, WSRA, WRRA, SWAC's, etc) to promote communication to a wide variety of stakeholders.

What We Didn't Do: Staff and resource constraints have slowed plans to address collection contamination. Also, more focus on reducing the amount of contamination in recovered organics will occur in the 2013-2015 biennium.

Summary of Progress: Little progress. Ecology and state Dept of Agriculture worked to restrict sales of pesticides that contaminate compost; however minimal effort was made on other compost contamination issues.

Milestone ORG E: Most people understand the benefits of healthy soil. *Addresses Recommendation ORG 2*

Implementation Strategy: Support the network of home compost educators with technical assistance and tools to improve compost, healthy soils education, and natural yard care programs through staff support, CPG, and PPG funds.

What We Did:

- W2R staff produced a number of informational and educational documents that are available on Ecology's Compost and Healthy Soil web page to state and local governments. The fact sheets (including one on *Building Healthy Soils*) increase awareness of healthy soil.
- W2R staff participate in various local government (e.g., SWAC) and non-profit groups (e.g., WORC, WSRA, CSANR) to promote education, outreach, and market development for organics diversion to beneficial end uses.

What We Didn't Do: Staff and resource constraints prevented more educational and technical support.

Summary of Progress: Some progress. Compost and Healthy Soil fact sheets are available on the W2R website and Ecology staff participate regularly in local government and non-profit group discussions about recycling organics into soils.

Milestone ORG F: Statutory and regulatory barriers to closed loop organics recycling are addressed. *Addresses Recommendation ORG 5*

Implementation Strategy: Partner with other agencies and industry stakeholders to identify statutory and regulatory barriers to increasing organic material recovery and processing. Address issues when updating WAC 173-350 and when exploring changing RCW 70.95 to better support the Beyond Waste vision.

What We Did: In an effort to address regulatory inconsistencies in organics management, Ecology staff, in coordination with other government staff, industry stakeholders, and the public completed the update to the organics section of WAC 173-350-220 in 2013. An update to the rest of 173-350 is slated to begin in 2014.

What We Didn't Do: Aside from updating the organics management section of WAC 173-350, no other work has been done to resolve regulatory and statutory barriers to improve diversion and conversion programs.

Summary of Progress: Some progress. Ecology addressed barriers to organic recycling in the amendments to the organics section of the Solid Waste Handling Standards (WAC 173-350-220).

Milestone ORG G: A beneficial use hierarchy is created for residual organic material processing and uses. *Addresses Recommendation ORG 6*

Implementation Strategy: Align multiple stakeholder interests to create a beneficial use hierarchy for recycled organic materials. Partner with research universities, other agencies, and the private sector. Identify barriers and opportunities for increasing organic materials recycling.

What We Did: Ecology continued to work with stakeholders to invent, use, and report on new technologies. W2R and WSU staff have researched and written papers on a variety of organics issues, from carbon sequestration in soils to the creation of biofuels, bioenergy, biochar, and soil amendments from organic residues. These efforts are ongoing.

What We Didn't Do: A beneficial use hierarchy has been developed for food waste, but development of a beneficial use hierarchy for all organics has been delayed. This will get more focused attention in 2014. Staff and resource constraints have restricted efforts to expand these programs.

Summary of Progress: Little progress. A beneficial use hierarchy has not yet been developed for organics other than food waste.

Milestone ORG H: Soil carbon sequestration using recycled organic materials has increased based on research recommendations. *Addresses Recommendation ORG 6*

Implementation Strategy: Continue support for research and development of carbon sequestration projects.

What We Did: In the past five years there has been a significant increase in the use of Washington made compost on Washington agricultural lands. This has provided a short-term increase in soil carbon sequestration. Efforts to implement long-term soil carbon sequestration through development and incorporation of biochar are ongoing.

The grants programs continue to support local government opportunities to develop and implement biochar pilot projects.

W2R and WSU staff have researched and written papers on a variety of organics issues, including carbon sequestration in soils (*Focus on Soil Carbon Sequestration*, June 2013). Efforts are ongoing.

What We Didn't Do: Reduced funding has prevented more support for this project.

Summary of Progress: Some progress. Research papers have been written on soil carbon sequestration.

Milestone ORG I: Technical assistance, research, and /or capital expense funds support the development of at least two biomass-to-energy, biomass-to-fuel, and co-products "organic refinery" projects. *Addresses Recommendation ORG 6*

Implementation Strategy: Partner with stakeholders, such as the Bioenergy Coordination Team (www.bioenergy.wa.gov/), and research universities. Continue support for research and development of new recycled organic materials and processes.

What We Did: Ecology and WSU staff have researched and written papers on a variety of organics issues, including the creation of biofuels, bioenergy, biochar, and soil amendments from organic residues. These efforts are ongoing.

W2R participated with other agency staff to share information on developments in the bio-mass to bio-energy and bio-fuel efforts. Grants from a number of sources including federal agencies and Washington, Oregon, and Idaho agencies have funded projects that are improving understanding of anaerobic digesters, gasification, and biochar conversion technologies. There are many projects underway that promote creation and use of bio-fuels and bio-energy (e.g., the Quinault Indian Nation Biomass Project and Grays Harbor Biofuels) and support efforts from other groups (e.g., Aviation Biofuels work group and Forest Biomass Group).

What We Didn't Do: Staff and resource constraints resulted in reduced support for projects. Funding support for research staff at WSU, who work on bio-energy projects, was cut. We cannot say if the research done has led to two new facilities.

Summary of Progress: Some progress. Grants from federal, Washington, Oregon, and Idaho agencies funded projects that are improving understanding of anaerobic digesters, gasification, and biochar conversion technologies. Many projects are underway that promote creation and use of bio-fuels and bio-energy.

Milestone ORG J: Organics recovery (including landscaping and food scraps) occurs at 50 percent of all state and local government buildings and institutions, including Capitol Campus. State and local agencies and institutions are required to use compost as a landscape management tool to reduce water and pesticide use. *Addresses Recommendation ORG 1*

Implementation Strategy: State agencies partner and lead by example by adopting integrated pest management to maintain landscapes, and promoting healthy soils and EPP through purchase of recycled organic products from compliant, permitted, and exempt facilities.

What We Did:

- W2R staff began to compile information on which facilities are diverting organics to beneficial end uses (such as at the Capitol Campus), but no specific information has been documented yet. Slated for 2014.

What We Didn't Do: Limited resources have prevented a stronger focus on this project. No information has been compiled to show how many state facilities buy compost or use agency EPP programs to buy compost. No workshops have been held to help agency staff buy compost through agency EPP programs.

Summary of Progress: Little progress. While informational materials on healthy soils are now available on the web, Ecology is just beginning to contact other agencies to promote organics recycling with on-site technical assistance.

Milestone ORG K: Statewide residential and commercial recycling of organics is standard practice, supported by efficient collection and increased infrastructure. Large municipalities offer food waste collection programs to residential and commercial customers. *Addresses Recommendation ORG 2*

Implementation Strategy: Collaborate with others to increase residential, commercial, and agricultural organics recovery and identify key elements of successful organics recycling programs including incentives. Identify how many government buildings and schools currently collect organics for recycling. Identify what percentage of the population currently has yard debris or yard debris/food scrap recycling opportunities. Implement incentives to encourage increased organic recovery.

What We Did:

- Many stable collection programs exist throughout the state.
- A rough estimate indicates that approximately 88 percent of Washington residents have access to yard and garden recycling options (curbside and/or drop-off), and a very conservative estimate indicates that approximately 51 percent of Washington residents have access to food collection options. All of the food collection efforts are in large population centers.
- The grants programs continue to support local government opportunities to develop and implement organics collection and educational programs. In the 2011-2013 grant cycle, the diversion of over 96,000 tons of organics was a result of grant-supported programs.
- W2R Coordinated Prevention Grants facilitated the building of a new compost facility in eastern Washington.

What We Didn't Do: Identifying the number of state facilities and schools that have organic collection has not been done yet.

Infrastructure has not expanded or diversified to the degree necessary to process the ever- increasing amount of organics (primarily due to the implementation of waste food recovery programs).

Summary of Progress: Some progress. Many residents have access to yard and garden recycling options (curbside and/or drop-off); Coordinated Prevention Grants facilitated the building of a new compost facility in eastern Washington.

Milestone ORG L: Major retailers promote the use of natural yard care and pest control products, including compost. *Addresses Recommendation ORG 3*

Implementation Strategy: Enlist local government to promote neutral yard care. Partner with associated stakeholders and no-profit groups.

What We Did: No work was done on this milestone.

What We Didn't Do: Staff turnover and constrained resources have prevented focused attention to this project. No specific work with retailers to promote natural yard care and pest control products has been done.

Summary of Progress: No progress. No contact yet with retailers about promoting natural yard care and pest control products.

Milestone ORG M: Food waste prevention is a focus of state and local government. This includes edible food recovery for redistribution to organizations serving hungry people and food waste prevention programs at the residential, commercial, and institutional levels. Work will be supported by a guidance document developed by Ecology. *Addresses Recommendation ORG 1*

Implementation Strategy: Starting points include research and development of a guidance document on food waste prevention.

What We Did:

- W2R staff produced a Food Donation Report in 2011 (https://fortress.wa.gov/ecy/publications/publications/1107032.pdf).
- W2R staff developed a list of organizations that collect food for redistribution. This project is in the very early stages of development.
- A W2R staff person is a member of EPA's "Food Too Good to Waste" project, which is spearheading an educational campaign to reduce food waste from residential consumers.

What We Didn't Do: Limited resources have prevented a stronger focus on this project. We did not develop a guidance document on food waste prevention.

Summary of Progress: Little progress. Ecology developed one document focused on food donation and observed EPA's national food waste prevention effort to discern what tools can be applied to state and local governments.

Making Green Building Practices Mainstream

Recommendations

GB 1: *Coordinate and facilitate partnerships to implement the Green Building Action Plan*
GB2: *Lead by example in state government.*
GB3: *Provide incentives that encourage green design, construction and deconstruction, and begin removing disincentives.*
GB4: *Expand capacity and markets for reusing and recycling construction and demolition materials.*
GB5: *Provide and promote statewide residential green building programs.*
GB6: *Increase awareness, knowledge, and access to green building resources.*
GB7: *Encourage innovative product design.*

Summary of Progress: Green Building	
No Progress	0
Little Progress	3
Some Progress	5
Significant Progress	3
Completed	0
Total Milestones	**11**
Total Recommendations	**7**

Milestone GB A: Washington continues to be a national leader in green building.
Addresses Recommendations GB 1, GB 2, GB 3, GB 5, GB 6, GB 7

Implementation Strategy: Continue working with governments, non-profits, and other organizations to expand the green building market in Washington. Provide ongoing assistance with strategic planning and education/outreach material development. Continue to work with partners including: Cascadia Region

Green Building Council (CRGBC), Northwest EcoBuilding Guild (NWEBG), BuiltGreen, Northwest Natural Resource Group, and Habitat for Humanity (HfH). Work with the Department of Enterprise Services, Commerce, Office of Superintendent of Public Instruction (OSPI), and other agencies affected by the state's green building mandate to ensure requirements are met or exceeded. Promote the CRGBC's Living Building Challenge and encourage green building standards to seek deeper levels of sustainability.

What We Did: Washington State has continued to rank in the top ten states with the highest per capita of LEED square footage although the overall square footage number has been dropping steadily over the last three years. Through June 2011, we actively collaborated and supported with CRGBC, NWEBG, BuiltGreen, and HfH. By creating these partnerships, we were able to build capacity and momentum for green building programs across the state.

Year	Ranking	Per capita of LEED (square feet)
2010	7th	3.16
2011	5th	2.18
2012	8th	1.565

Ecology partnered with DES and the Cascadia Regional Green Building Council to develop the Build-It LEED toolkit, a training program geared for contractors. Several free trainings were provided to contractors, project managers, and owners' representatives over the past two years. As many contractors are now proficient with LEED, training requests are now less frequent.

What We Didn't Do In July of 2011, the Green Building program was subjected to a budget proviso that prevented continuation of work in support of green building. In addition, by early 2011, Ecology's staffing for Green Building dropped from five FTEs to two FTEs. The program shifted focus from green building overall to building materials and debris. These factors limited the impact we could have on ensuring Washington stays a leader in green building, and affected most of the other milestones as well.

Summary of Progress: Some progress. Washington State is still a leader in LEED square footage, Ecology partnered with others to train contractors on LEED.

Milestone GB B: All new state funded buildings meet or exceed green building standards.
Addresses Recommendations GB 1; GB 2; GB 6

Implementation Strategy: Continue to work with agencies affected by the state's green building mandate to ensure they have tools to meet green building requirements. Participate in established processes for continuously improving green building standards as new technologies and issues emerge.

What We Did: Washington was the first state to require green building practices for all publicly funded buildings. In support of RCW 39.35D, Ecology provided support and technical assistance to affected agencies with eco-charrettes and integrated design meeting facilitation.

Through June of 2012, 53 state-owned projects have been LEED certified as follows: Platinum (2) Gold (29), and Silver (22). Ten of 125 projects submitted an Exemption Declaration saying that could not meet LEED standards.

What We Didn't Do: The 2011-13 budget proviso preventing work on green building, as well as declines in staffing limited the amount of technical assistance we were able to provide to support this milestone after July 2011.

Summary of Progress: Significant progress. 53 out of 125 state-owned projects have been LEED certified.

Milestone GB C: Government continues to identify and remove regulatory barriers to green building. *Addresses Recommendations GB 2, GB 3, GB 5*

Implementation Strategy: Work with local governments on integrating green building elements into Solid Waste Plans; provide technical assistance. Stay up-to-date and share information on incentives available statewide and regionally. Use the Department of Commerce study on effective green building incentives.

What We Did: Attended local government meetings and provided a presentation on integrating green building elements into their Solid Waste Plans, especially aspects of construction and demolition materials recycling. Staff provided technical assistance to local governments on building codes, rainwater policy, Brownfield redevelopment and LID. In 2009, staff worked with the Water Resources Program to issue a policy removing barriers to rainwater collection. Other major policy and code changes include:

- With the Department of Health as the lead, Chapter 246-274 WAC was established, a new rule that sets requirements for using grey water for irrigation purposes. The rule became effective July 31, 2011.
- Revisions have been proposed to Washington's Plumbing Code WAC 51-56-1600 regarding reuse of reclaimed, grey, and rainwater in piping systems and signage.
- Washington has a new, stricter energy code (Chapter 51-11C WAC for commercial or 51-11R for residential) that went into effect January 1, 2011. It requires a 15 percent reduction in consumption beyond federal requirements for new construction.

What We Didn't Do: All work specific to removing barriers stopped with the 2011-13 budget proviso preventing work on green building, along with declines in staffing.

Summary of Progress: Some progress. Before July 2011 when proviso and budget stopped program work, staff provided technical assistance to local governments.

Milestone GB D: Ten percent of all certified green building projects achieve credits for using existing building stock or salvaged materials and/or at least 75 percent waste diversion during construction. *Addresses Recommendations GB 4; GB 7*

Implementation Strategy: Inventory existing construction and demolition (C&D) recycling infrastructure across the state. Develop an outreach strategy to encourage non-green builders to reduce and divert waste. Start with outreach to Home Building Associations (HBAs) and non-green builders to identify barriers and determine effective incentives to reduce construction waste. During the eco-charrette process, emphasize building reuse, salvage, and recycling. While working with HBAs, encourage non-green builders to integrate the use of salvaged materials into their practices.

What We Did: Staff held two C&D Needs Scoping Sessions to exchange information, and develop a list of needs. Staff addressed issues of building reuse, salvage, and recycling in the eco-charrette process. To help create new outlets for salvaged materials staff provided technical assistance and support. The Building Material Reuse Association's biennial conference was held in Seattle to assist in developing educational resources to the region.

What We Didn't Do: We do not have data on what percentage of certified green building projects achieved credits for using existing building stock or salvaged materials, and/or diverted at least 75 percent of their waste during construction. There is limited available data from certification programs. Staff did little work to inform manufacturers about green building material credits and describing how their products could meet those credits.

Summary of Progress: Little progress. Worked with Green Building and Material Reuse organizations and one local government to stress the importance of reusing existing building stock, using salvaged materials, and diverting waste during construction as well as creating new outlets for salvaged materials, no data was collected to measure progress.

Milestone GB E: Green buildings occupy 15 percent of the total market share for new construction in Washington. *Addresses Recommendations GB 5; GB 6*

Implementation Strategy: Continue working with agencies affected by Washington's green building mandate to encourage the expansion of certified green building practices in the state.

What We Did: As of 2009, (the last data Ecology collected) green buildings accounted for 4.9 percent of the commercial market and 20.3 percent of the residential market in Washington. To build capacity at local levels staff worked closely with Built Green® programs across the state and coordinated educational events.

What We Didn't Do: The 2011-13 budget proviso preventing work on green building and declines in staffing limited the amount of work we were able to do on this milestone after July 2011. The recession also affected the strength of programs across the state. Programs such as the BuiltGreen Certification in the Inland Northwest have disappeared.

Summary of Progress: Significant progress. When last measured in 2009, market share already exceeded the 15 percent goal; until July 2011 staff continued to partner with Green Building organizations to build demand for green construction.

Milestone GB F: Washington offers degree and certificate programs in green building-related trades statewide. *Addresses Recommendation GB 6*

Implementation Strategy: Partner with employment development agencies to inform students how to join the green building workforce. Create a *Green Jobs Guidebook* for the construction trades, as a companion to the *Green Building: Jobs of the Future* DVD. Schedule viewing events and panel discussions around the Green Building DVD to talk about job opportunities and barriers in the green building sector.

What We Did:

- The *Green Building Jobs of the Future* DVD, created in 2009, has been seen on YouTube over 51,000 times. In an effort to provide additional information to students about future job opportunities, staff gave presentations.
- Staff convened two Green Building Jobs Stakeholders meetings of employment counselors, placement officers, and green skills trainers to coordinate and centralize green job information.
- Building Material Reuse & Deconstruction training took place at South Seattle Community College's Georgetown Campus in 2010 and 2011.

What We Didn't Do: Due to budgetary constraints, we did not complete work on the *Green Jobs Guidebook*. Work ceased after July 2011.

Summary of Progress: Little progress. One community college certification program offered in 2010 and 2011, otherwise no progress.

Milestone GB G: At least five buildings are built to the Living Building standard in Washington. *Addresses Recommendations GB 1, GB 3, GB 5, GB 6*

Implementation Strategy: Continue outreach and education efforts with regional green building organizations. Promote the CRGBC's Living Building Challenge (LBC) and encourage green building standards to seek deeper levels of sustainability. Work with green builders to encourage them to integrate Living Building principles into their practices and ultimately, to build in compliance with the standard.

What We Did: Staff worked to promote the LBC through educational events and workshops, and worked at the local government level to reduce regulatory barriers. Washington currently has two certified projects and 17 registered projects.

What We Didn't Do: Because the program was announced in November of 2006, not enough time has passed to certify more projects.

Summary of Progress: Some progress. Before July 2011 staff worked to promote Living Building Challenge and reduce regulatory barriers. Washington currently has two certified projects and 17 registered projects.

Milestone GB H: At least 50 percent of all local governments in Washington have adopted green building policies and/or incentives. *Addresses Recommendations GB 2; GB 3*

Implementation Strategy: Work with local governments on integrating green building elements into Solid Waste Plans; provide technical assistance. Initiate work with local building departments to encourage the adoption of LID policies, incentives for green building, and fast-track permitting. Stay up-to-date and share information on incentives statewide and regionally. Stay up-to-date and share information on incentives statewide and regionally. Work with local governments, Ecology planning staff, and others, to encourage the adoption of green building and green building compatible policies.

What We Did: Staff provided technical assistance to local governments in the form of presentations and participation on government taskforces.

What We Didn't Do: Staff did not engage with each of the cities and counties in Washington. No information was collected about meeting the 50 percent goal. Work ceased in July 2011.

Summary of Progress: Some progress. Provided some technical assistance to local governments in the form of presentations and participation on government taskforces; no information collected about meeting the 50 percent goal.

Milestone GB I: A third-party certification system for green building materials effectively provides verification that products are manufactured in compliance with product stewardship and sustainability principles. *Addresses Recommendations GB 7*

Implementation Strategy: Analyze, promote, and support quality third-party certification systems. Continue working with other Ecology programs and state and local agencies to encourage the adoption of green building products and practices. This work depends on industry priority and movement.

What We Did: Staff tracked the development of various models of product certification systems including Pharos, Declare, and Health Product Declaration Collaborative, as well as different Life-cycle assessment tools.

Staff worked specifically with roofing manufacturers on the design and implementation of a product leaching study to assess what compounds may be released from various roofing types.

Staff also worked on two proposed product stewardship efforts for building products: carpet and paint, though no product stewardship laws have yet been passed.

What We Didn't Do: Staff did not endorse any one particular certification or methodology. Interest in product analysis methodologies is just beginning to gain momentum. There is no current consensus as to which third-party certification system is the front runner.

Summary of Progress: Little progress. Staff tracked the development of various models of product certification systems. Currently there is no consensus as to which third-party certification system is the front runner.

Milestone GB J: Authorities adopt policies that require low-impact development strategies to be included in building design and maintenance. *Addresses Recommendations GB 2; GB 3*

Implementation Strategy: Continue outreach and education efforts with regional green building organizations. Work with local building departments to encourage the adoption of LID policies, incentives for green building, and fast-track permitting. Provide information to builders, through existing organizational partnerships, on the strategies and benefits of LID. Work with local governments, Ecology planning staff, and others, to encourage the adoption of LID policies.

What We Did: Significant effort in outreach to other Ecology programs that deal with LID issues, such as Water Quality and Water Resources. This effort resulted in new collaborative projects that will integrate LID principles in the built environment with stormwater management needs of Western Washington. Staff worked with agency committees to develop LID strategies and programs and gave several presentations.

What We Didn't Do: Work on LID stopped when the 2011-13 budget proviso went into effect and with the decline in staff.

Summary of Progress: Some progress. Connecting with Ecology's Water Quality and Water Resources programs resulted in new collaborative projects integrating LID principles into the built environment to address stormwater management in Western Washington.

Milestone GB K: Energy use in public buildings meets or exceeds Architecture 2030 goals. *Addresses Recommendations GB 2; GB 6*

Implementation Strategy: Continue working with agencies affected by Washington's green building mandate to encourage the expansion of certified green building practices in the state. Ongoing tasks include facilitating eco-charrettes for publicly-funded projects, providing Build-It-LEED for Contractors trainings, and removing regulatory barriers to valuable green building products or practices.

What We Did: In 2010, the Washington state legislature adopted the Architecture 2030 goals into the state energy code (RCW 19.27A)

Green Buildings are saving energy, though metering has many challenges. DES estimates energy savings in LEED buildings range from 12 percent to 46 percent. Washington State Housing Trust Fund

(HTF) tracks the 130 projects following the Evergreen Sustainable Development System (ESDS). These projects exceeded the energy requirements of the 2006 Washington State Energy Code (WSEC).

Facility operators are doing their best to report data that is metered, or prorated, based on square footage or other strategies. A Metering and Measurement Report template was developed to help operators document and report challenges with measuring energy and water use in state LEED buildings.

What We Didn't Do: This is the first biennium with a significant amount of reported energy consumption data, and information related to metering. To get accurate consumption data for LEED buildings, meters are necessary to measure energy use consistently. Installing meters in all buildings is difficult to accomplish for a variety of reasons.

Staff did not compare the energy savings to the Architecture 2030 thresholds. Work ceased after July 2011.

Summary of Progress: Significant progress. Architecture 2030 goals were made part of the state energy code. DES estimates energy savings in publicly funded LEED projects range from 12 percent to 46 percent.

Measuring Progress Toward Beyond Waste

Recommendation DATA 1: *Consolidate all related and useful data collection efforts and develop a comprehensive data tracking and evaluation system for Beyond Waste and other environmental activities.*

Summary of Progress: DATA	
No Progress	0
Little Progress	1
Some Progress	1
Significant Progress	3
Completed	2
Total Milestones	**7**
Total Recommendations	**5**

Milestone DATA A: The majority of Waste 2 Resources (W2R) and Hazardous Waste and Toxic Reduction (HWTR) work plan activities correspond to Beyond Waste indicators. The Agency understands how Beyond Waste indicators relate to Agency performance measures.

Implementation Strategy: Evaluate and consolidate data collection efforts that feed the Beyond Waste Progress Report (www.ecy.wa.gov/beyondwaste/bwprog_front.html) and other projects. Tie this process to program planning, performance measures, and recommendation DATA 2. W2R and HWTR program staff and managers tie specific actions in work plans to Beyond Waste indicators by the 2011-13 biennium.

What We Did: We successfully integrated some of the data collected under the Pollution Prevention Planning program with other data tracking efforts that feed the Progress Report. We also integrated some of the solid and hazardous waste Office of Financial Management (OFM) program performance measures with the Beyond Waste indicators. These actions helped link the Beyond Waste plan to other program and agency activities, and ultimately provided a better understanding of the way indicators and

performance measures are used and interconnected. In addition, we tried to align performance measures for Ecology grant programs containing Beyond Waste elements with Beyond Waste indicators.

What We Didn't Do: We were unable to incorporate Beyond Waste indicators into staff work plans completely. This is partly due to difficulty for staff and managers to make the connections, since there is some subjectivity involved. In addition, some staff don't see their work in the Beyond Waste indicators. For example, there is no Beyond Waste indicator measuring landfill performance so landfill engineers can't see the connection to their work. The 2011-13 budget proviso, which targeted Beyond Waste and many other activities prevented work on this issue during the biennium.

Summary of Progress: Significant progress. Integrated some Progress Report indicators with program and OFM performance measures; some integration with staff work plans.

Milestone DATA B (SW F): A waste characterization study is completed every four years. State studies are coordinated with waste characterization studies done at the local level.

Implementation Strategy: Oversee a waste characterization study in 2009-10. Analyze and share data with all interested parties. Plan or begin another waste study before the five-year planning timeframe expires.

What We Did: During 2009-10, Ecology commissioned Cascadia Consulting Group to conduct a four-season municipal solid waste characterization study (2009 Washington Statewide Waste Characterization Study). The purpose of the study was to examine materials and resources currently disposed throughout the state in depth. We coordinated the study with several recent or concurrent county studies, adding their data to increase the total number of samples and provide a more robust analysis. The results of the study helped us determine:

- The total availability of materials for recycling.
- Waste stream quality.
- Effectiveness of waste reduction and recycling programs.
- Consumer preferences and emerging waste streams of concern.

We shared results with many entities, including government, industry, the public, academia, and non-governmental organizations both in-state and out-of-state.

Additionally, work has started on a Recycling Destination and Use Study to be completed in-house. Such a study would help to determine the amount of materials that make it to the various markets for recycling or are ultimately disposed of as residuals.

What We Didn't Do: Due to budget issues, planning has stalled on another waste characterization study.

Summary of Progress: Significant progress. Completed one waste characterization study (2009-10) and began a Recycling Destination and Use Study.

Recommendation DATA 2: *Update and review existing indicators on an annual basis. Develop and implement an evaluation process for all working indicators. Eliminate non-useful/non-viable measures, and add potential new measures.*

Milestone DATA C: An evaluation process and recommendations for existing indicators are in place.

Implementation Strategy: Evaluate existing indicators before publishing the 2010 Progress Report. Get input from Waste 2 Resources Advisory Committee (W2RAC), Ecology staff, and local government. Use input to modify the 2010 Progress Report and make it consistent with the 2009 plan update. Complete less comprehensive evaluations prior to updating the Progress Report annually.

What We Did: During 2010, we conducted a thorough evaluation of the Progress Report, which included a survey about its effectiveness and interviews with W2R JAGs (job-alike groups), HWTR Networks, other program staff, W2RAC, and outside stakeholders. From the results of the survey, we developed a set of recommendations for revising the Progress Report, which were implemented with the 2011 update of the report. An example of a recommendation that was implemented is creating "alternate looks" for several of the indicators, such as adding per capita data. This helps provide context for the various audiences that view the indicators. This process served as the report's five-year review.

We also completed an informal evaluation of the Progress Report, checking in with the staff involved in gathering data and preparing the report. This gave us an idea of what is working, what is not, making changes as needed, and getting approval from management.

In 2012, W2R held a program workshop that entirely focused on assessing the program's data needs and making improvements. The outcomes and recommendations of this workshop are still being developed. One of the resulting projects was a local government survey on data needs, implemented in 2013. We hope that the results of this survey will help further evaluate the Progress Report.

What We Didn't Do: Some Progress Report indicators, such as Green Building Market Share, were put on hold due to the budget proviso. The inability to evaluate these areas caused some pieces of the Progress Report to fall behind. Factors such as lack of available staff and access to appropriate data have prevented us from developing new recommended indicators.

Summary of Progress: Significant progress. Using a stakeholder evaluation process, revised and improved most of the Progress Report in the 2011 update of the report. (Ongoing work)

Recommendation DATA 3: *Base policy decisions on analysis of trends and projections based on Beyond Waste indicators.*

Milestone DATA D: Indicator reports include goals and are evaluated annually. Policy decisions are based on trend analysis of the indicator data.

Implementation Strategy: Over the next five years, develop target goals for all, or most, of the indicators and include the information in the Progress Report. Evaluate the Beyond Waste Plan and program plan, discuss progress toward goals and apply decisions to future activities.

What We Did: Setting targets for indicators was discussed as part of the Progress Report evaluation with staff and management. It was decided this wasn't the best direction to take due to the resource intensive nature of the goal setting process combined with the limitations imposed upon us with the Beyond Waste proviso. We have rough targets for our performance measures, which are submitted to OFM, and over the years, we aligned these performance measures with some of the Progress Report indicators.

We also added a target page to the Progress Report, using a HWTR goal of 80 percent reduction in hazardous waste by 2035. There is no waste reduction goal for solid waste, so we used 80 percent as a model, but not as an official goal.

What We Didn't Do: We did not develop numerical targets for each of the indicators, nor did we find examples from other jurisdictions of some high bench marks. This would have been a resource-intensive process and the proviso limited our work on this, since many staff were not available to discuss or work on goal setting.

Summary of Progress: Little progress. Due to resource limitations, we decided not to set targets for most indicators, and did little analysis of trends to apply to decision making about future activities.

Recommendation DATA 4: *Continue to expand the communication strategy for the Beyond Waste Progress Report within Ecology and externally.*

Milestone DATA E: The progress report receives publicity both internally and externally.

Implementation Strategy: Program staff create and implement a communications plan for the Beyond Waste Progress Report. Disseminate the Progress Report to various internal and external audiences. Implement actions in progressive years, to build on the overall strategy gradually.

What We Did: Staff began planning a comprehensive communications plan or marketing strategy for Beyond Waste and the Progress Report. Until July 2011, multiple activities and events provided publicity for the Progress Report.

What We Didn't Do: We did not fully develop and agree upon a comprehensive communications plan. The budget proviso stopped much of this work.

Summary of Progress: Some progress. We did not complete a comprehensive communication plan, but staff presented the Progress Report to various stakeholder groups during the evaluation and began outreach efforts with a new infographic.

Recommendation DATA 5: *Update and enhance the Consumer Environmental Index (CEI).*

Milestone DATA F: Annual updates of the CEI as it currently exists are completed.

Implementation Strategy: Implement a plan for updates to the CEI. Complete annual updates as set forth in the plan.

What We Did: Progress Report team staff established a plan to update the CEI model in 2009. In 2009 and 2010, the existing model was updated with 2006 and 2007. In 2013, work began on updating the model with data through 2011. Currently, staff are working together to complete this update by mid-2014.

What We Didn't Do: The milestone is on track for completion by mid-2014.

Summary of Progress: Completed. CEI updates on track to be completed by mid-2014.

Milestone DATA G: A strategy to enhance the CEI is in place and enhancements are in progress.

Implementation Strategy: Implement a plan for enhancements to the CEI. Complete enhancements as set forth in the plan. Enhance the CEI as more data or funding becomes available.

What We Did: Progress Report team staff established a plan to enhance the CEI model in 2009. In 2013, work began on enhancements and further updates to the model. Currently, staff are working together to complete the enhancements in 2014. The CEI was featured in EPA's annual Climate and Materials Management Forum in 2012, and as a result we are finding new uses for the CEI.

What We Didn't Do: The milestone is on track for completion by early in 2014.

Summary of Progress: Completed. Enhancements will be completed in early 2014.

Current Hazardous Waste Issues

The Hazardous Waste Issues chapter has three sections:

1. Pollution Prevention (P2)
   - Four recommendations and milestones
2. Compliance with the Dangerous Waste Regulations
   - Three recommendations and milestones
3. Permitting and Corrective Action
   - Four recommendations and milestones

Summary of Progress: HW Issues	
No Progress	0
Little Progress	0
Some Progress	6
Significant Progress	3
Completed	2
Total Milestones	11
Total Recommendations	11

Pollution Prevention

Recommendation HW 1: *Encourage P2 planners to address hazardous substance use, including toxicity and risk in their P2 plans. Additionally, encourage P2 planners to address environmentally preferable purchasing (EPP), and solid waste and water reductions.*

Milestone HW A: Most P2 plans comprehensively address hazardous substance use as well as EPP, solid waste, and water use when appropriate.

Implementation Strategy: Focus on eliminating or minimizing the most toxic chemicals, using the Toxics Reduction Advisory Committee (TRAC) recommendations. Start a sector campaign with P2 planners, likely on toxic metals, in spring of 2010. Partners may include Puget Sound Partnership and other relevant associations. Run the campaign for several years, and then start a second campaign, possibly on solvents or polycyclic aromatic hydrocarbons (PAHs).

What We Did: Implemented Turbo Plan, a standardized way to report hazardous substance use, which includes many more environmental management system (EMS) facilities. The sector campaign on toxic metals, also called the Toxics Metal Prevention project, was implemented in June 2010 and continued through 2013. All facilities that had lead, mercury, and chromium wastes were visited by Ecology staff to encourage them to stop using these toxic metals. Some facilities were able to achieve significant reductions. Staff also conducted a number of Technical Resources for Engineering Efficiency (TREE) and Lean and Green projects.

What We Didn't Do: Most of the recommendations, (including the ones on changing hazardous waste fees from TRAC) have been implemented due to the political climate. A second campaign has not yet been planned.

Summary of Progress: Some progress. Developed better P2 reporting system for hazardous substance use (Turbo Plan). P2 planners visited all facilities using lead, mercury, and chromium achieving some significant reductions. More attention to other TRAC recommendations is needed when the political climate is receptive.

Recommendation HW 2: *Develop guidance on acceptable Environmental Management System (EMS) and environmental reporting systems.*

Milestone HW B: Guidance on acceptable EMS and environmental reporting systems is developed.

Implementation Strategy: Emphasize toxic substance reporting as part of overall reduction efforts. Include Global Reporting Initiative and use results of the Industrial Footprint project.

What We Did: The EMS guidance is to be completed by September 1, 2013. In addition to this guidance, Ecology did a Global Reporting Initiative (GRI) report for the agency as a whole. How to use GRI as part of an EMS will be included in the EMS guidance.

What We Didn't Do: The Industrial Footprint project results were not used in the EMS guidance because they are not directly applicable to the guidance document.

Summary of Progress: Completed. Guidance completed on acceptable EMS and environmental reporting systems.

Recommendation HW 3: *Improve P2 plan quality and relationships with P2 planners. Work to ensure P2 plans are implemented.*

Milestone HW C: Most P2 planners design and implement high quality plans. Relationships with P2 planners continue to improve.

Implementation Strategy: Reform information technology for reporting and technical assistance opportunities, based on studies on improving pollution prevention planning. Do a statewide survey on the effectiveness of any new reporting or P2 guidance.

What We Did: Implemented Turbo Plan, a standardized way to report hazardous substance use for P2 planners (including EMS facilities). Ecology did a survey on Turbo Plan users. Turbo Plan turned out to be very customer friendly and resulted in less time to fill out the report and fewer requirements for P2 planners. Turbo Plan includes more financial data so cost savings can be determined. It also reduced review time for staff. Ecology staff are beginning to visit some facilities more frequently (a minimum of every three years) to improve relationships with P2 planners and encourage plan implementation. More P2 success stories have been published online, which encourages other facilities to implement their P2 plans.

What We Didn't Do: Ecology staff has not made it a top priority to get P2 facilities to implement their P2 plans.

Summary of Progress: Some progress (ongoing work). New Turbo Plan reporting requires less facility time to complete and easier staff review, staff spent more time visiting facilities to build relationships and preparing online success stories to help P2 implementation.

Recommendation HW 4: *Encourage P2 planners to develop an energy management program to identify and implement conservation measures or renewable energy opportunities that reduce greenhouse gas emissions.*

Milestone HW D: The majority of P2 planners implement effective energy management and related measures that result in continuous improvement and reduced emissions, including greenhouse gases.

Implementation Strategy: Finish implementing the EPA grant on energy management. Provide technical assistance referrals for energy management to interested P2 planners. Encourage facilities through TREE projects to also address energy management.

What We Did: Grant funding allowed Ecology staff to increase contact with facilities on energy conservation. Forty-eight energy projects were conducted, exceeding the expectations of the EPA grant. As of May 2013, actual annual savings of: 25 million kWh electricity, 22,000 metric tons CO2-equiavelent, and $2.9 million. Consequently, many P2 success stories on energy conservation have been written and will soon be published.

What We Didn't Do: We didn't ensure the majority of P2 planners address energy management.

Summary of Progress: Some progress. Achieved significant energy savings on 48 projects and published success stories, still need to apply to the majority of P2 Planners.

Compliance with the Dangerous Waste Regulations

Recommendation HW 5: *Increase the number of local and state compliance inspectors so staffing levels are sufficient to inspect LQG's and MQG's every three years and to provide most counties with local source control inspectors.*

Milestone HW E: The chance of finding a significant environmental threat during a compliance inspection will drop from 60 to 50 percent.

Implementation Strategy: Continue to request budget adds to increase the number of inspectors and local source control inspectors (starting with the 2011 legislative session). Continue to research and implement logical enforcement efficiencies.

What We Did: In 2011, HWTR received a legislative budget add allowing the program to hire four more compliance inspectors. Ecology staff has now started meeting the goal of inspecting all LQG's and MQGs every three years. In 2009, the chance of finding a significant environmental threat was 60 percent. In FY13, it had dropped to 40 percent, thereby surpassing the milestone goal of 50 percent. It is assumed that this is due primarily to the increased number of inspections.

HWTR has received increased funding for Local Source Control (LSC) in 2011 and was able to add ten full and part-time LSC specialists. Currently, 10 out of 39 counties have 31 LSC specialists. Thirty are in the Puget Sound area, one is in Spokane.

What We Didn't Do: Due to limited funding, most counties do not have local source control specialists to provide outreach to small businesses on hazardous waste compliance and pollution prevention. The current goal is to expand the LSC program into Washington's Columbia River Basin counties.

Summary of Progress: Completed. Chance of finding a significant environmental threat dropped to 40 percent in fiscal year 2013.

Recommendation HW 6: *Additional user-friendly information is available to regulated facilities on how to comply with the Dangerous Waste Regulations.*

Milestone HW F: Businesses use the additional compliance information available and have a better understanding of compliance with the regulations.

Implementation Strategy: Continue to add information to Ecology's website. Post information for businesses on the Washington's Waters site. Explore the idea of making and posting compliance-related videos and webinars.

What We Did: New information has been added the HWTR website including a tutorial on complying with the dangerous waste regulations and more details about financial assurance. Additional information has been added to the "Washington Waters" website on hazardous waste compliance over the last couple of years. There has been increased training for HW inspectors. One hazardous waste compliance video has been made and posted.

What We Didn't Do: Due to reduced budgets, Ecology was not able to re-establish the Dangerous Waste Workshops. Up to ten more hazardous waste compliance videos are planned for the next several years. These videos then could be shown at Ecology regional offices by regional HWTR staff instead of the more traditional Dangerous Waste compliance workshops. These videos will also be posted on HWTR's website.

Summary of Progress: Significant progress (ongoing work). HWTR enhanced their website, which included adding a tutorial on complying with the Dangerous Waste Regulations, more details about financial assurance, and planned for educational videos.

Recommendation HW 7: *Work toward safer management of small quantity generator (SQG) wastes.*

Milestone HW G: Fewer environmental problems result from how SQGs manage their waste.

Implementation Strategy: Continue supporting the Local Source Control (LSC) and Urban Waters programs. Continue to implement the EPA grant on the Environmental Results Program and Envirostars. Work with MRW 8 and 12 strategy developments to ensure SQGs are addressed. Request feedback on proposed strategies from local governments and other stakeholders. Include SQGs in appropriate sector campaigns, including those on toxic metals.

What We Did: Ecology continued to support Local Source Control and Urban Waters programs. LSC has nearly doubled the number of participating jurisdictions since 2008. Three larger partners have memorandums of understanding (MOUs) with smaller jurisdictions to perform site visits within those smaller jurisdictions expanding the reach of the work while reducing program administration. Also, some jurisdictions have Specialists that give pollution prevention technical assistance including a focus on safer alternatives such as parts cleaners. Local Source Control Specialists continue to find and resolve hazardous waste and stormwater issues at small businesses that have never before received a technical assistance visit.

What We Didn't Do: HWTR has done little additional work outside of LSC on SQG's. More specific technical assistance for SQG's, expansion of the Envirostars program, and additional reporting requirements or landfill prohibitions has not been put in place. The strategies specified in MRW 8 and MRW 12 were not completed. The toxic metals campaign focused primarily on LQG's and MQG's and there are no plans to expand the campaign to SQG's.

Summary of Progress: Some progress. Since 2008, doubled the number of jurisdictions with Local Source Control programs that continue to address hazardous waste and stormwater issues at small businesses but still need more specific attention on SQGs.

Permitting and Corrective Action

Recommendation HW 8: *Ecology management work with appropriate local health authorities to gain greater oversight for treatment, storage, and disposal facilities (TSDs) currently permitted in part by local governments.*

Milestone HW H: Ecology staff can inform the public that an entire TSD operates in a safe manner, not just the state permitted sections of a TSD.

Implementation Strategy: Ecology management will work on this.

What We Did: HWTR had discussions with W2R regarding our relationships with local health authorities and we acknowledged our need to have stable, experienced local field staff and agreement on goals for facilities. Compliance inspectors supported local health authorities, sharing inspection reports and coordinating on development of new RCRA permits.

What We Didn't Do: HWTR and W2R did not succeed in securing stable resources or agreement with local health authorities.

Summary of Progress: Some progress. Compliance inspectors supported local health authorities, sharing inspection reports and coordinating on development of new RCRA permits, still need secure funding for and more coordination with local health authorities.

Recommendation HW 9: *Ecology staff continues to ensure all state permitted TSDs are operated in a safe manner.*

Milestone HW I: No new Corrective Action (CA) sites are created at permitted TSDs and hazardous waste facilities.

Implementation Strategy: This is ongoing work.

What We Did: Ecology renewed four different ten-year permits since 2008. These renewals are better, more protective than the previous permits. No new CA sites have been created at permitted TSDs and hazardous waste facilities. However, Ecology investigations of various CA sites have sometimes detected pre-existing contamination that was previously not apparent.

What We Didn't Do: N/A

Summary of Progress: Significant progress. Ecology renewed four different ten-year permits that are more protective than the previous permits, finding some CA sites with pre-existing contamination.

Recommendation HW 10: *Ecology continues to make progress on the goal to have environmental contamination under control at HWTR permitted corrective action sites by 2020.*

Milestone HW J: Ecology has a goal to have environmental contamination under control and remedy construction complete at 95 percent of the HWTR permitted/corrective action sites by 2020.

Implementation Strategy: This is ongoing work and will be enhanced by two additional staff (due to a legislative budget add) assigned to this work.

What We Did: We currently track three CA performance measures for EPA under the Government Performance and Results Act (GPRA). Those performance measures are percentages of remedy construction complete, human exposures under control, and migration of contaminated groundwater under control. Since 2008, the number of sites tracked increased from 22 to 39 with the development of the 2020 Baseline. In 2013, two more sites were added for a total of 41. CA work on these 41 sites is overseen by HWTR (31 sites), the Industrial Section of W2R (7 sites), and the Nuclear Waste Program

(3 sites). We have met most of EPA's Interim Nationwide Goals under the GPRA, except for the goal percentage of Remedy Construction Complete in 2012 (46 percent).

What We Didn't Do: We did not meet EPA's Nationwide Interim Goal for Remedy Construction Complete in 2012.

Summary of Progress: Significant progress. With funding from the Legislature for two additional staff, Ecology met all but one national EPA CA performance measurement goal.

Recommendation HW 11: *Ecology staff, through technical assistance and permitting authority, work to encourage safe hazardous waste recycling at TSD facilities.*

Milestone HW K: All existing facilities that recycle hazardous waste comply with existing environmental regulations.

Implementation Strategy: When time allows, give research and technical assistance to interested facilities. Permitting staff may want to gather information from P2 and compliance staff, as well as local governments, on needed opportunities for recycling.

What We Did: Ecology issued new RCRA permits for all commercial TSD's required capital improvements to facilities that increased worker safety and protection of the environment. NWRO hired a staff person to lead compliance efforts with recyclers/used oil processors. Despite hazardous waste generation rates going down over the years, recycling rates for hazardous waste stayed reasonably constant.

What We Didn't Do: Permitting staff did not research additional recycling opportunities, nor did they give technical assistance on additional recycling opportunities to interested facilities.

Summary of Progress: Some progress. New dedicated staff person hired to address compliance at recycling facilities, however, still need to provide more technical assistance on additional recycling opportunities.

Current Solid Waste Issues

The Solid Waste Issues chapter has five sections:

1. Solid Waste Authorities and Local Planning Issues
   - Five recommendations and five milestones
2. Waste Reduction, Recycling and the Technical Nutrient Cycle
   - Four recommendations and six milestones
3. Disposal – Yesterday, Today and Tomorrow
   - Five recommendations and six milestones
4. Financing Solid Waste for the Future
   - One recommendation and one milestone
5. The Solid Waste System in Washington Today
   - No recommendations or milestones – background information only

Summary of Progress: SW Issues	
No Progress	3
Little Progress	5
Some Progress	6
Significant Progress	3
Completed	1
Total Milestones	18
Total Recommendations	15

Solid Waste Authorities and Local Planning Issues

Recommendation SW 1: *Encourage inclusion of Beyond Waste principles into local plans.*

Milestone SW A: Reducing the volume and toxicity of waste is a goal of all solid waste plans. At least 75 percent of planning jurisdictions have implemented activities in at least one initiative or issue area, and 50 percent of planning jurisdictions have implemented activities in two or more initiative or issue areas (green building, environmentally preferable purchasing, organics, etc.)

Implementation Strategy: As an ongoing effort, planners assist and encourage local governments to incorporate more Beyond Waste principles and actions in their local plans. Grants may be available to help them do this.

What We Did: Beyond waste principles and actions have been incorporated into many plans in varying degrees. Approximately 80 percent of local plans include beyond waste elements, including organics, moderate risk waste, and/or green building, or will add them during their in-process updates (27 include now, five will add). Almost 60 percent of plans (23 plans) mention the Beyond Waste Plan by name, and another 15 percent (six plans) will add during their in-process update. Additionally, 56 percent (22 plans) include other beyond waste priorities, such as EPP or products stewardship, and another 12 percent (five plans) intend to add during their updates.

What We Didn't Do: A proviso on one of our main funding sources in the 2011-2013 budget prohibited work on Beyond Waste activities. Therefore, we were not able to actively promote plan principles and

actions as much as we did prior to this time. However, some structure that had been put in place continued during this time.

Summary of Progress: Significant progress. Approximately 80 percent of local plans include Beyond Waste elements, including organics, moderate risk waste, and/or green building, or will add them during their in-process updates.

Recommendation SW 2: *Revise local planning guidelines.*

Milestone SW B: Solid waste planning guidelines are up to date and concurrent with the Beyond Waste vision, principles, and RCW 70.95.010.

Implementation Strategy: Ecology staff, with a work group of affected stakeholders, updated the solid waste planning guidelines. Aim to complete the update by early 2010.

What We Did: Both the solid and hazardous waste planning guidelines were updated in 2010 to include Beyond Waste principles and actions. However, the guidelines will need to be updated again in the next few years to incorporate additional changes.

What We Didn't Do: N/A

Summary of Progress: Completed (for now). Guidelines revised.

Recommendation SW 3: *Expand assistance to local planning jurisdictions.*

Milestone SW C: Locals tap into well-trained and highly-skilled technical assistance staff proficient in planning, Beyond Waste priorities, and local issues and opportunities.

Implementation Strategy: Ecology staff continue to improve their knowledge and abilities to provide planning assistance to local governments. One goal of this ongoing effort is a holistic planning approach to help local governments use their local waste plans to implement appropriate actions for their jurisdictions.

What We Did: Two new planners join our ranks and two planners become seasoned veterans. The group continues to hone their knowledge and study topics important to the local planning process. Local governments having access to skilled technical assistance and interaction with locals are top priorities.

What We Didn't Do: A holistic planning approach has not been defined or developed.

Summary of Progress: Some progress. Continued assistance offered to jurisdictions.

Recommendation SW 4: *Collaborate with local governments.*

Milestone SW D: Incentives are built into the Coordinated Prevention Grant (CPG) program to help implement high-priority Beyond Waste projects, incorporate Beyond Waste into local plans, and transition planning jurisdictions towards the Beyond Waste vision.

Implementation Strategy: Encourage the use of grants to further the Beyond Waste vision. This is an ongoing effort, though the current economic downturn may reduce grant-funding opportunities for the near-term.

What We Did: The 2009-11 and 2011-13 budgets both had $4 million provisos for "… organics composting, green building and moderate risk waste initiatives described in the 'Beyond Waste' plan."

In 2009-11, 27 jurisdictions did beyond waste proviso projects with CPG funds, and in 2011-13, 31 jurisdictions did additional projects. In both grant cycles, moderate risk waste projects were the highest funded, followed by organics projects. Green building projects were the least funded. The majority of projects were funded in the more populated northwest and southwest regions. Projects in the eastern region were also well represented in 2010-11, and the number of projects in the central region increased in 2012-13 from the previous cycle. It is important to note these are just the projects from the funds allocated in the Beyond Waste proviso, and do not represent all the grant projects that relate to the plan initiatives.

In the 2013-15 biennium, the Beyond Waste $4 million proviso was discontinued, and all money was allocated through a standard distribution formula instead. Encouraged by Grant officers, and based on an early count, 32 jurisdictions plan to conduct Beyond Waste-related projects in this biennium. This includes green building projects, at least 14 MRW projects, and 27 organics projects. Again, this does not represent all grant projects that relate to the plan initiatives, particularly waste reduction and recycling projects are not tallied here.

Beyond Waste principles and actions were incorporated into CPG guidelines in the 2009-11 biennium and updated for 2011-13. The version for 2013-15 was included as a link on the website instead of as an appendix in the guidelines. As funding was available and budgets allowed, we continued to encourage the use of CPG funds for Beyond Waste projects. We have the most ability to do so in the competitive, offset grant cycle. Note that Beyond Waste Plan initiatives were also successfully incorporated into the public participation grants.

What We Didn't Do: The budget proviso in 2011-13 that prohibited our work on Beyond Waste with Waste Reduction, Recycling and Litter Control Account (WRRLCA) funds reduced staff ability and flexibility to promote Beyond Waste overall. However, the CPG budget (Model Toxics Control Account or MTCA) funds still provided for these projects. This mixed message reduced overall effectiveness of our promotion of Beyond Waste actions and policies.

Summary of Progress: Significant progress. The past five years have yielded a steady increase in Beyond Waste projects undertaken by local governments using CPG funds, reaching a high of 32 jurisdictions in the latest CPG cycle.

Recommendation SW 5: *Ensure responsibilities are clear.*

Milestone SW E: Solid waste laws and regulations are updated to support the Beyond Waste vision.

Implementation Strategy: Review and propose revisions to solid waste laws and regulations. Explore options to revise RCW 70.95 in support of the Beyond Waste vision.

What We Did: A significant effort began in 2009 to update our solid waste laws, including RCW 70.95. Stakeholder meetings were held across the state to get input on problems with our laws. The problems were then summarized and, with additional stakeholder input, prioritized for where we should begin to look for legislative solutions. Ecology staff proposed potential solutions for the prioritized issues and were next going to solicit solution ideas from external stakeholders. However, a budget proviso in 2012 stopped all work on this project through June 30, 2013. It is unclear if it will be resumed in 2013-15 biennium depending on resources and other priorities. However, the input we have received to date will be used as we work on the 2014 State plan update.

An update of our main regulations, WAC 173-350, which addresses solid waste handling standards also began in 2010. However, the governor put a moratorium on rule work in November 2010, which stopped the general update. Given concerns about compost operations, the update of the composting section of WAC 173- 350-220 proceeded, along with the addition of two new sections: 225 (other organic material handling activities) and section 250 (anaerobic digesters). This was completed in 2013. Resources allowing, additional sections of this rule, as well as a few others, will be updated in 2013-15.

What We Didn't Do: We did not complete either statutory or regulatory efforts given the temporary legislative or governor prohibition to continue the work.

Summary of Progress: Some progress. Updated organics sections of Solid Waste Handling Standards regulation; completed external stakeholder work to prioritize update to solid waste laws before the Legislature proviso stopped work.

Waste Reduction, Recycling and the Technical Nutrient Cycle

Recommendation SW 6: *Characterize Washington's solid waste streams.*

Milestone SW F (DATA B): A waste characterization study is completed every four years. State studies are coordinated with waste characterization studies done at the local level.

Implementation Strategy: A waste characterization study was being done in 2009, with a second part to be done in 2010. Before the five-year planning timeframe is up, plan or begin another waste study.

What We Did: During 2009-10, Ecology commissioned Cascadia Consulting Group to conduct a four-season municipal solid waste characterization study (*2009 Washington Statewide Waste Characterization Study*). The purpose of this study was to examine materials and resources currently disposed throughout the state in depth. We coordinated the study with several recent or concurrent county studies, adding their data to increase the total number of samples and provide a more robust analysis. This study helped us determine:

- The total availability of materials for recycling.
- Waste stream quality.
- Effectiveness of waste reduction and recycling programs.
- Consumer preferences and emerging waste streams of concern.

We shared results government, industry, the public, academia, and non-governmental organizations both in-state and out-of-state. We also used the data to update the progress report and other data reporting efforts.

Additionally, planning began on a recycling characterization study to be completed in-house. Such a study will help determine the amount of materials that make it to the various markets for recycling or are ultimately disposed as residuals.

What We Didn't Do: Due to budget constraints, planning has stalled on another waste characterization study, which was supposed to occur in the 2013-15 biennium.

Summary of Progress: Significant progress. Completed 2009-2010 waste characterization study, no funding for 2013-15 study. Began a Recycling Destination and Use Study.

Recommendation SW 7: *Plan for a stronger recycling system and technical nutrient cycle, including promoting local manufacturing with recycled feedstock.*

Milestone SW G: A strategy is in place for strengthening the technical nutrient cycle. This supports sustainable products, producer responsibility, and a sustainable economy.

Implementation Strategy: Start with an assessment of current recycling infrastructure and markets. Continue to address recycling systems and quality of materials. Focus on materials that present challenges, product stewardship opportunities, and incentives, including funding mechanisms.

What We Did: As a means to address recycling systems and quality of materials, we launched the Washington Commingled Improvements Project in 2009 as a statewide project with regional workgroups. The first process was held in the southwest region and was groundbreaking work on commingled curbside

recycling quality. A second process began in the Central and Eastern region, resulting in a summary of issues and white papers. A third process is now being held in the Northwest region. Through this work, materials of concern have come to attention and some recommendations on collection and education were provided. This work also helped provide an assessment of markets and infrastructure for curbside collected recyclables. Additionally, an annual Recycling Access map, first done in 2007, has been done every year since, showing locations with residential curbside and drop off recycling.

Staff proposed product stewardship for some materials, though legislation brought forth by proponents was not successful. We worked with mercury lights producers, after our product stewardship program was stalled, to come up with an environmental handling charge approach to fund the program. Ecology supported legislation introduced by producers.

A new team was formed to address "Materials Management." A key project of this team is an interactive materials map to show recycling infrastructure throughout the state. This is an important first step in making a stronger recycling system, and is expected to be done in 2014. This map is pending an update of the database that supports it.

What We Didn't Do: A strategy for strengthening the technical nutrient cycle was not written, nor did we assess current recycling infrastructure and markets.

Summary of Progress: Some progress. Launched the Washington Commingled Improvements Project in 2009 as a statewide project with regional workgroups resulting in identifying materials of concern and recommendations.

Milestone SW H: All state agencies and other governments recycle.

Implementation Strategy: Provide assistance to state agencies, including promotion of sustainable products.

What We Did: Ecology Environmentally Preferred Purchasing (EPP) staff continue to work with Dept. of Enterprise Services to promote sustainable products (this is covered under the EPP Milestone MRW 7).

What We Didn't Do: The recession led to reductions to the state agency sustainability coordinator positions and removal of the annual sustainability reports. Therefore, Ecology does not have staff to address improvements, recycling, or other sustainable issues in state agencies. Nor are staff available to collect data in order to track and report state agency recycling.

Summary of Progress: No progress. No progress made primarily due to statewide reductions in sustainability staff.

Milestone SW I: Statewide recycling is standard practice for commercial and residential generators, supported by efficient collection and increased infrastructure.

Implementation Strategy: Continue to improve recycling programs, including paper. Efforts will rely on availability of funding and opportunities from outside sources.

What We Did: Based on our 2011 waste generation, disposal, and diversion/recycling data, the state reached the 50 percent recycling goal. The goal was established in 1989, originally to be met by 1995 (and later by 2007).

Curbside collection of recycling continues to increase and availability is tracked on a statewide map, which is updated annually. The Yakima to Tri-Cities corridor is the only remaining well-populated area where residential curbside is not yet offered as standard practice.

The Washington State Recycling Association (WSRA) led a study on multifamily recycling that surveyed counties and an extensive number of multi-family properties around the state. This provided basic data on the number of multifamily recycling programs in the state, what they collect, and means of collection.

Recycling infrastructure has increased some, especially with a new Material Recycling Facility in Spokane.

What We Didn't Do: Commercial recycling is provided by the private sector and is not tracked. Data is difficult to obtain and there are few staff resources in local government to spend on this effort.

Summary of Progress: Some progress. Residential recycling is increasing and offered in most well populated areas of the state. Much more work is needed in the commercial recycling area.

Recommendation SW 8: *Encourage manufacturers, retailers, and other businesses to reduce packaging materials and wastes.*

Milestone SW J: An agreement is reached with major retailer organizations in the state to establish sustainable packaging guidelines and packaging reduction strategies.

Implementation Strategy: Research and build on efforts under way. Work with businesses to develop a memorandum of understanding. This effort will not begin until 2011 or later and will need some assistance from outside the agency.

What We Did: Ecology and many local government staff engaged in a variety of packaging work nationally and regionally. This included the EPA discussion on financing for recycling, which focused primarily on packaging and other industry efforts that came out of that discussion. Staff tracked work by Ameripen (an industry group), Recycling Reinvented (an industry sponsored non-profit promoting packaging stewardship), and most recently PAC-NEXT (another industry group), which is working with the Northwest Product Stewardship Council (NWPSC) packaging sub-committee.

What We Didn't Do: We did not work on an agreement with manufacturers partly due to the loss of key staff by 2011 when this effort was to begin. Sustainable packaging guidelines have been created by both the private and non-profit sector, (Ecology provided input on one of these), and so continued work in this area may not be the best focus. There was quite a bit of activity but not a lot of progress.

Summary of Progress: Little progress. Ecology and many local government staff are engaged in a variety of packaging discussions nationally and regionally but no measurable progress to date.

Recommendation SW 9: *Educate the public and businesses on the benefits and practice of waste reduction and recycling.*

Milestone SW K: Education efforts that promote waste reduction and recycling are in place and complement local and regional efforts. The relationship to greenhouse gases is emphasized.

Implementation Strategy: Initially, maintain and increase focus on current and ongoing education efforts. Begin assessing education efforts, successes, and needs in 2010. Survey and share available resources. Education messages should emphasize benefits and link to agency priorities, such as climate change. Use grant funds to leverage education efforts.

What We Did: Ecology staff started to work with WSRA Education committee. The staff person doing this work was moved to other duties. Another staff member took on the education work with WSRA, but then left the program.

The Southwest Commingled Workgroup worked on best management practices and common messaging for recyclables in their region, which has been used in some local government information. The Northwest Commingled Workgroup also has this task as an objective.

The annual recycling focus sheet and the Beyond Waste Progress Report were updated to prominently include greenhouse gas connections to waste.

What We Didn't Do: Due to staff reductions the work to assess, strengthen, and build on educational messages around the state was not done.

Summary of Progress: No progress due to staff reductions.

Disposal – Yesterday, Today, and Tomorrow

Recommendation SW 10: *Identify closed and abandoned landfills statewide.*

Milestone SW L: All jurisdictional health departments complete inventories of closed and abandoned landfills.

Milestone SW M: Closed and abandoned landfills are marked on official records, and all property owners are notified.

Implementation Strategy: Encourage jurisdictional health departments (JHDs) to inventory closed and abandoned landfills, and share existing information. Use grant funds when available. Inventory efforts will be ongoing, as jurisdictions undertake them.

What We Did: Ecology encouraged work on closed and abandoned landfills through grants and sharing Pierce County's project at the Waste 2 Resources advisory committee. Ecology staff found data files on untracked closed or abandoned landfills for many counties and entered them into the solid waste facilities database. Staff then notified the affected health departments of the new data pertinent to their counties.

What We Didn't Do: Most of this work relies on JHDs, and was not a priority in the tight recessionary times.

Summary of Progress: Little progress. The facilities database now contains more than 500 historic landfills.

Recommendation SW 11: *Evaluate and prioritize problems at closed and abandoned landfills.*

Milestone SW N: Jurisdictional health departments develop lists of prioritized closed and abandoned landfills and their problems.

Implementation Strategy: Encourage JHDs to inventory closed and abandoned landfills, and share existing information. Work is jurisdiction-dependent and ongoing.

What We Did: Ecology did not work on this, other than encouraging the use of grants for this work. Thurston County worked on a site hazard assessment scale with their hydro-geologist. Pierce County completed a thorough study of their closed and abandoned landfills.

What We Didn't Do: The majority of this work is driven by jurisdictional health departments.

Summary of Progress: Little progress. Progress only in Thurston and Pierce counties.

Recommendation SW 12: *Develop feasible and responsible processes for addressing priority closed and abandoned landfills.*

Milestone SW O: Processes for addressing priority closed and abandoned landfills are developed with at least one pilot cleanup site under way.

Implementation Strategy: Work with JHDs to devise clean-up potential processes. Assist JHDs with pilot processes. Timing of work is jurisdiction-dependent, and includes Ecology's Toxic Cleanup Program.

What We Did: The W2R program's Landfill Corrective Action Roundtable has been using a guidance document with an addendum, to provide technical assistance to counties that closed landfills under Chapter 173-304 WAC. No other action was taken on this milestone we are aware of.

What We Didn't Do: No action was taken on this milestone.

Summary of Progress: Little progress. Guidance document addendum developed to provide technical assistance to counties closing landfills, no follow-up action.

Recommendation SW 13: *Identify funding to address priority closed and abandoned landfills.*

Milestone SW P: Cost estimates for addressing highest priority closed and abandoned cleanup sites are developed, along with a list of funding options.

Implementation Strategy: Update and maintain a statewide database of disposal facility compliance and financial assurance. Provide technical assistance to jurisdictional health departments. Much of this work is ongoing.

What We Did: No action was taken on this milestone. Funding these activities is essential.

What We Didn't Do: No action was taken on this milestone.

Summary of Progress: No progress. No action was taken on this milestone.

Recommendation SW 14: *Ensure that existing disposal facilities comply with requirements.*

Milestone SW Q: Regulators evaluate compliance and financial assurance regularly. Action plans are in place to bring facilities into compliance.

Implementation Strategy: Update and maintain a statewide database of disposal facility compliance and financial assurance. Provide technical assistance to jurisdictional health departments. Much of this work is ongoing.

What We Did: An improved database format is really needed and being developed by IT staff. Information is added to the current database as facility staff have time and need. Financial assurance is looked at yearly for operating landfills by regional staff but not consistently kept current in the facility database. Most of the details on financial assurance are held by the jurisdictional health department and Ecology pursues information as needed.

Environmental indicators for landfills are also tracked and updated yearly.

Providing technical assistance to health departments on facility compliance is the key activity of Ecology facility staff, and a very time consuming one. It can involve preventing, assessing, and dealing with problems. Usually done on an as-needed basis, it can include action plans.

What We Didn't Do: Not all data is consistently entered into the facilities database, in part due to limited staff time.

Summary of Progress: Some progress. Ongoing work includes providing technical assistance to health departments on facility compliance, ensuring financial assurance is in place, and tracking environmental indicators for landfills; little progress on keeping facility database current.

Recommendation SW 15: *Continually reduce disposal impacts on human health and the environment. Coordinate with efforts on climate change, Puget Sound and other Washington waters, and reducing toxic threats work.*

Milestone SW R: Research and recommendations on long-term waste disposal and transfer impacts and requirements is ongoing.

Implementation Strategy: Start with regular inventory of disposal and waste transfer infrastructure. Assess disposal facility requirements. Significant work might not start before 2011. Potential partners include research institutions, local governments, and private disposal facility owners and operators.

What We Did: An inventory of disposal and waste infrastructure is part of the materials mapping effort that is underway, but is pending the new facility database.

A strong correlation was identified between landfill gas from disposed organics and groundwater contamination in 13 landfills.

Managing solid waste safely helps prevent toxic and other threats. This ongoing work is an important part of reducing disposal impacts on human health and the environment.

What We Didn't Do: Long term work on disposal and transfer impacts was not addressed, in large part due to resource issues. Facility staff do not have time, and there was no money for contracts or interest expressed (or sought) by research universities.

Staff acknowledge that certain materials (concrete, soils, sludge) need attention or provided some opportunities. An example would be to revise the Beneficial Use Determination (BUD) process.

Summary of Progress: Little progress. Ecology research found a strong correlation between landfill gas from disposed organics and groundwater contamination in 13 landfills, little else accomplished.

Financing Solid Waste for the Future

Recommendation SW 16: *Evaluate financing for the solid waste system, including moving toward Beyond Waste, in consultation with the SWAC and interested parties.*

Milestone SW S: A report is developed with the state SWAC, or other similar group, providing options and recommendations for financing the solid waste system in support of the Beyond Waste vision.

Implementation Strategy: Continue to research and identify funding and potential solutions. Explore the use of universities for research. Staff will spend more time on this in 2010-11 and work will continue as resources are available.

What We Did: A subcommittee of the Waste 2 Resources Advisory Committee (W2RAC) met many times in 2010 and 2011 to discuss the issues and provide direction for studies. As suggested by the W2RAC, and as resources were available, Ecology worked on the following:

- A staff economist looked for new funding mechanisms since the original 2004 Beyond Waste finance report was done. The only new mechanism found was the producer-funded E-Cycle program.
- A study was contracted with Washington State University economists to explore and evaluate funding options for waste reduction and recycling programs. They did a high-level analysis of 17 different mechanisms, ranking them against criteria established in the plan.
- An intern with the University of Washington Masters in Public Policy program did his final paper on an analysis of how cities charge and pay for recycling and composting programs. He found 86 percent of cites embed at least some of the costs in disposal bills.

What We Didn't Do: Many constraints during this time period limited the amount of work that could be done on this milestone.

- We were limited on available contract funds for quite some time.
- Later, when contract funds were available, a prohibition on contracting by the governor prevented us from using them.
- A budget proviso in 2012 prohibited further work on this issue through June 30, 2013.

As of July 2013, staff time and financial resources for contracting are not available for the immediate future.

Summary of Progress: Some progress. Advisory group met often in 2010-2011, a few studies on financing options completed, further work discontinued due to budget proviso.